AIR CONDITIONING & REFRIGERATION NEWS
The Newspaper of the Industry
Subscription Price, $6 Per Year Vol. 79, No. 13, Serial No. 1,445 November 26, 1956
Issued every Monday at 450 West Fort St., Detroit 26, Michigan
Established 1926
Member, Associated Business Publications ABP ABC Member, Audit Bureau of Circulations
Reentered as second class matter October 3, 1936 at the post office at Detroit, Mich., under the Act of March 3, 1879. Trade Mark Registered U. S. Patent Office. Copyright 1956, by Business News Publishing Co.

Inside Dope

By GEORGE F. TAUBENECK

Learn to live and laugh — thus delay your epitaph

The Olympic Games Have Double Interest
Tips to Travelers
Strange Talk
Very Black People
Of Course You've Heard About the Boomerang
Tasty Food—the Greatest

The Olympic Games Have Double Interest

Favorite nation (outside of North America) for many members of the refrigeration industry undoubtedly is Australia.

Australians visit us frequently, and to a man they're wonderful people. Moreover, a great many younger men in our business spent considerable time in Australia during World War II, and loved it (Australia, not the war!).

That's why the Olympic Games in Melbourne right now have double interest for readers of the NEWS.

Tips to Travelers

For those readers who are business tripping to Australia, an Australian correspondent offers excellent advice.

Should you bring an electric razor? You can, but unless you bring along your own transformer you will do one of two things: electrocute yourself or burn out a perfectly good razor. Australia works on 240 current. It would be better to take a Gillette and keep the World Series and Lou Maxon going.

Do they wear hats in Australia? Yes, occasionally. They also wear shoes and have inside plumbing.

How about refreshments? Drinks are much cheaper in Australia than in America. A Scotch over the bar will cost you about 22 cents. A 27-ounce bottle of beer at bar prices will cost roughly 37 cents, and brother, it is BEER. Nothing like it anywhere. All alcoholic beverages delivered to your hotel room will be slightly dear (i.e., expensive), as in any American hotel.

For those who are in Australia in spirit, herewith some observations on that wonderful land. (We were there many years ago, and the Australian refrigeration people were mighty grand to us.)

Strange Talk

Australians have a remarkably large vocabulary of slang expressions. Some are imported, some hybrid; but most are highly original, with special effects confined to the Down Under Land.

(Concluded on Page 10, Col. 1)

Central Home Unit With Own Ductwork Leads '57 York Line

YORK, Pa. — "Pathfinder" sealed-circuit air-cooled central residential air conditioners with pre-packaged ductwork, "Snorkel" room air conditioners, and "Yorkaire" room units with a "Clean-Air Sentry" which lights up when the filter needs cleaning or changing are in the York Commercial Div. line for 1957.

Also in the line are "Special Series" sealed-circuit water-cooled air conditioners for commercial or residential use, "Champion" water-cooled or air-cooled central home air conditioners, "Hi-Ef Twinline" central residential air conditioning systems with hermetically-sealed refrigerant circuit, gas-fired warm air furnaces in three series, and "Embassy" water-cooled packaged air conditioners for business and industry.

The self-contained Pathfinder central air conditioner retails as low as $495.95 with ductwork and installation extra, York said. Units are available in 1¾, 2, and 3-ton models.

York said the Pathfinder permits "fast, easy, low-cost installation." The compact unit fits in almost any unused space—in attic, basement, utility room, breezeway, crawl space, garage

(Concluded on Back Page, Col. 1)

No 'Revolution' Seen In Food Processing Due to Irradiation

NEW YORK CITY — No "revolution" in the food processing and food preservation industry through atomic radiation of foods is likely in the near future because of high costs and unsolved problems of taste and appearance.

This was one of the conclusions coming out of the executive panel of manufacturers and food economists during the Grocery Manufacturers of America convention here.

Experiments conducted thus far have shown that radiation alters both the flavor and color of foods, the panel discussion brought out. There are also problems of applying the processing techniques on a mass scale.

(Concluded on Page 4, Col. 1)

'Automated Picket'

Vending Machines 'Sealed' By Striking Teamsters

NEW YORK CITY—Automatic merchandising ran afoul of the "automated picket" here recently during a strike by vending machine servicemen.

Taped across the coin slots of the struck machines were signs stating: "Milk-O-Matic on Strike." The signs bore the signature and seal of Local 804 of the International Brotherhood of Teamsters.

Contractors To Query Mfrs. at ARW Chicago Clinic Dec. 14-15

CHICAGO—Program for the "Product Knowledge Clinic" to be held Dec. 14 and 15 at the Morrison hotel here, includes panel discussions on subjects of prime importance to the air conditioning and refrigeration contractor in his daily work.

The Clinic will take the form of an educational and panel discussion type meeting in which an audience of air conditioning and refrigeration contractors are being invited to participate. Some 80 manufacturers will man individual conference booths to discuss particular problems on their products with the contractors who attend.

Sponsorship of the Clinic is by the Air Conditioning & Refrigeration Wholesalers Association, Region Six. The ARW committee in charge is comprised of James Alter, J. P. Glass, Jr., and E. Peter Sorensen.

Program on Friday will open at 10 a.m. with a panel discussion on "Water Saving Devices" (a. Cooling Towers and Evaporative Condensers; b. Air-Cooled Condensers). Moderator is Larry Jennings, Dunham-Bush,

(Concluded on Page 21, Col. 1)

Kelvinator Offers Two-Directional Room Units for '57

DETROIT — Two-directional cooling, "with the capacity and control to cool two adjoining rooms with the same unit," highlights Kelvinator's 1957 line of room air conditioners.

"The two room area must be sufficiently open to allow air distribution from the unit," it was pointed out by William G. Kronauge, sales planning manager for Kelvinator room air air conditioners, who announced the new ten-model room unit line.

"Market studies point to increasing year-round sales of room air conditioners, and their diminishing identity as strictly a summer product," Kronauge said in explanation of the company's early introductory date of the line.

"By introducing our 1957 line now, dealers also will be ready

(Concluded on Page 11, Col. 1)

BEHIND PAGE ONE . . .

$3 Million Year-Round System
Conrad Hilton System To Provide Individual Control In All Rooms 2

Aggressive Promotion Builds Dealership
Live Demonstrations, Attractive Showrooms Testimonials, Personal Atmosphere Help 6

Break Even Point
Expert Explains Relation of Fixed, Variable Costs To Break Even Point 14

Dairy Show Pictures 17, 18

Refrigerant Piping 19

Regular Features
Editorial ..... 12 What's New 16
Refrigeration Problems ..... 20 Patents 22

RSES Hears Technical Talk by A Woman, Welcomes Heating Men

KANSAS CITY, Mo. — The Refrigeration Service Engineers Society broke with tradition at its 19th annual convention here and loved every minute of it.

For the first time in history, a woman delivered a technical talk to the group. She was Olivia P. Burkey, general manager of Chemical Solvents Co. She gave the servicemen some pointers on treating water systems.

Mrs. Burkey, wife of Noel Burkey, Jr., president of the company, did so well that Paul B. Reed, who chairmaned the discussions, indicated that she would be invited back again, possibly to discuss the cleaning of ice makers.

Attendance was good at all technical sessions and particular interest was shown in the three apparently contradictory views on drying refrigeration systems expressed by different speakers.

Robert S. Geran of Kelvinator Div., American Motors Corp., stood firmly by his company's successful use of anhydrous methanol in small fractional horsepower units, John Spence of Hussmann Refrigeration Co. strongly recommended the use of a vacuum pump as the way to get hermetic units as dry as possible in the field and a drier to keep them dry, and Don Landis of York advocated using nothing but heat and deep evacuation to 50 microns in fac-

(Concluded on Page 4, Col. 4)

CRMA Says First Half of '57 To Equal '56 Mark

CHICAGO—Despite a nationwide slowdown in new food store construction and remodelling projects caused by the current tight money situation, members of the Commercial Refrigerator Manufacturers Association attending the organization's recent annual fall meeting here predicted that business for at least the first six months of 1957 should be on a par with the same period this year.

A review of the industry's sales progress thus far in 1956 showed that orders have matched the 1955 record almost exactly. Last year was the best in history by a substantial margin. Frozen food equipment continues to account for a large and still growing proportion of the

(Concluded on Page 8, Col. 1)

Copeland Names Gleason as Pres.

SIDNEY, Ohio — Frank J. Gleason has been named president of Copeland Refrigeration Corp. He succeeds Harry E. Thompson, whose resignation was accepted last week by the corporation's board of directors.

F. J. Gleason

Gleason had held the post of executive vice president since April, 1955. He will continue as Copeland treasurer, a post he has held since 1937.

Copeland sales for 1956 will amount to $30 million, as contrasted to $850,000 annual sales in 1937. During this period Gleason has held the positions of vice president in charge of sales, treasurer, executive vice president, and general manager.

A veteran of the early days of mechanical refrigeration manufacturing, Gleason in 1935 was one of the founders, and became executive secretary of the Refrigeration Supplies and Parts

(Concluded on Back Page, Col. 5)

Conditioned Pre-Fab Homes Foreseen In Near Future

DETROIT — Eero Saarinen, well-known architect who designed the General Motors Technical Center near here, recently predicted that prefabricated houses made of aluminum and plastic, air conditioned, and replete with pushbutton controls, would become commonplace in the not too distant future.

Shopping and pedestrian centers, said Saarinen, will be covered with great translucent domes, a half mile or more in diameter, with controlled climate inside.

To be SURE of Satisfaction

Be SURE to Specify

READING

COPPER TUBING

FOR REFRIGERATION &
AIR CONDITIONING EQUIPMENT

READING COPPER TUBE

READING TUBE CORPORATION
EMPIRE STATE BUILDING NEW YORK 1, N. Y.
WORKS: READING, PA.

$3-Million Installation

Conrad-Hilton's Year-Round System Seen as Largest In Hotel Industry

CHICAGO—A $3 million contract for year-round air conditioning of the Conrad Hilton hotel, said to be the biggest air conditioning project in hotel industry history, has been signed here between Hilton Hotels Corp. and York Corp.

Plans call for all the hotel's 2,700 guest rooms, plus 300 other rooms, to be fully air conditioned by Sept. 1 next year. The first 1,000 rooms are to be finished by May 8. A preliminary part of the work, involving conversion of most of the hotel to alternating current, already has been completed.

When the air conditioning project begun Nov. 19 is completed, the Conrad Hilton, world's largest hotel, will have more air conditioned rooms than any other hotel.

Installation will involve over 3,300 induction-type air conditioning units. The present radiator system will be removed and a high-pressure induction system installed by the Borg-Warner Corp. subsidiary for both heating and cooling with individual room controls.

Heart of the year-round system will be a refrigeration unit in the hotel's third basement. But the giant task will be installing 95 riser systems from the attic down through the hotel to the fifth floor. Each riser involves three components: a drain line, a chilled-hot water supply, and a conditioned air supply duct. The entire network will be enclosed in "Met-L-Wood." Heating fans and blowers will be located on the roof.

A feature of the high-pressure system is that if anyone does not want air conditioning the system can be shut off by a room occupant so that only fresh air is circulated.

York's eventual crew to complete the installation will include about 60 steamfitters, 40 sheet metal mechanics, 20 electricians, 15 insulation mechanics, and six temperature control mechanics. H. G. Prizant and Co. will function as York's ventilation subcontractor.

Working schedule for York will put 60 to 180 rooms out of use each day as individual room units are installed, but the work will be performed so as to permit night occupancy in those rooms. On completion of the program, the hotel's basic daily rate rooms are expected to go up by $1.50.

Trainloads of equipment will bring over 15 miles of copper and steel piping to the hotel, 150 tons of sheet metal, 126,000 sq. ft. of Met-L-Wood (metal resembling wood), in addition to thousands of tons of major refrigeration and air conditioning machinery and accessories.

Signing the Nov. 16 agreement were Robert P. Williford, executive vice president of Hilton Hotels Corp.; Robert F. Quain, general manager of the Conrad Hilton and vice president of the corporation, and John J. Floreth, district manager for York.

the hottest thing in LOW temperature

LOWEST in operating costs, too!
Kramer's new "L" THERMOBANK saves important dollars every day it works for you. It's the only LOW temperature automatic hot gas defrost system that works trouble-free at any temperature level, from plus 32° to minus 75°. Let us prove that it costs less to own the best!

WRITE FOR MANUAL TV-320

KRAMER

THERMOBANK

KRAMER TRENTON COMPANY
Trenton 5, New Jersey

NOLIN
Leads the Field

WITH THE
Dry Beverage Cooler
- LEADS IN CAPACITY
- LEADS IN QUALITY
- LEADS IN PERFORMANCE
- LOWEST IN PRICE

NOLIN MANUFACTURING COMPANY
1400 LLOYD ST. PH. 3-4454
MONTGOMERY, ALABAMA

For more information about products advertised on this page use Information Center, page 16.

Right to left: John Morrill, General Manager—Don Wood, General Sales Manager—Al Wirick, Manager of Manufacturing—Clyde Ploeger, Director of Engineering—Bill Aulsebrook, Manager, Quality Control—Hardy Austin, Superintendent, Production—John Downen, Service Manager—Clarence Martin, Supervisor, Order Department—Henry Preher, Chief Application Engineer

NEW TEAM IN THE COMPRESSOR LEAGUE!

There's a new big-league team in the compressor business — Bendix-Westinghouse Evansville Division.

While our parent company, Bendix-Westinghouse Automotive Air Brake Company, has been for twenty-five years the leading supplier of precision compressors to the automotive industry, our division here at Evansville, Indiana, is a brand-new entry into the commercial refrigeration and air-conditioning field.

Though new in the business, we feel we have many sound, tangible assets to offer the industry.

Our product line consists of hermetic compressors ranging in capacity from ¼ to 7½ H.P. They're designed for low, medium, and high temperature applications, and we believe them to be unsurpassed for dependable performance.

Our manufacturing facilities are big, modern, well-staffed and well-tooled. They can handle any size order you give us.

Our personnel know the business and are dedicated to carry out our main policy . . . to provide you with the finest products and best service available. We want your business and will be contacting you soon to show you specifically what we have to offer.

NOT IN APPLIANCE BUSINESS

Our name may lead you to believe we are also in the appliance business. Neither this division nor the parent company in Elyria, Ohio, has any connection with appliance manufacturing. We make compressors and condensing units, nothing else. Bendix-Westinghouse is a joint subsidiary of Bendix Aviation Corporation, Detroit, Michigan, and Westinghouse Air Brake Company, Wilmerding, Pennsylvania.

Bendix-Westinghouse®

EVANSVILLE DIVISION *Evansville, Indiana*

A Division of Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio

For more information about products advertised on this page use Information Center, page 16.

No 'Revolution' In Food Processing--

(Concluded from Page 1, Col. 2)

On the matter of costs, it is indicated that radiation processing runs somewhere between 2 to 8 cents per pound as compared with heat sterilization and freezing, both of which have been reduced to a fraction of 1 cent per pound.

(At an "Atom Day" celebration at the University of Michigan, which has been a center of civilian research on radiation food preservation, research scientists declared that food pasteurized by atomic radiation methods "is not yet ready for approval by the Food and Drug Administration for sale to the public.")

Army Picks Food Processing Test Site

WASHINGTON, D. C.—Sharpe General Depot, Stockton, Calif., has been selected by the Army for its experimental center to study use of ionizing radiation in the preservation of food, among other things, it was jointly announced by Wilbur M. Brucker, Army secretary, and Lewis L. Strauss, chairman of the Atomic Energy Commission here recently.

The experimental center will include a nuclear reactor to be designed and constructed by the AEC at an estimated cost of $3 million. Other facilities, costing about $4.5 million, will include a high energy particle accelerator, offices, laboratories, and processing and storage areas.

'Holiday Instalment Plan' Offered to Kelvinator Dealers

DETROIT—A special "Holiday Instalment Plan" for all Kelvinator and Leonard dealers has been announced by Refrigeration Discount Corp.

Announcement of ReDisCo's special payment plan, aimed at spurring Thanksgiving and Christmas appliance sales, was made by C. R. Brogan, president of the sales financing subsidiary of Kelvinator.

The new instalment plan, effective Nov. 19, permits retailers to schedule the first payment on or before Feb. 18, 1957. Promotion will be based on customers' opportunity to clear up Christmas bills in December and January before starting payments on appliances.

RSES Welcomes Heating Men--

(Concluded from Page 1, Col. 3)

tory charged systems.

Landis explained at the final "information please" session that the three methods were not contradictory but were applicable to different types systems.

COURSES ATTRACTING NEW MEMBERS

During their business session, RSES delegates testified to the success of their new study course in refrigeration and air conditioning in attracting new members.

Some noted that the course was particularly appealing to heating men, who were joining up just to take the course. While some concern was expressed over how permanent their membership might be, officials of the society welcomed them.

The New Jersey association submitted a resolution asking expansion of the association's program to provide heating education and to include heating members, suggesting a constitutional change if necessary.

The board of directors later decided that heating men could join under the present regulations and no constitutional change would be necessary.

The delegates elected William E. Tierney of Worcester, Mass. as the new president of the International Society for the coming year. George R. Klahn of St. Paul, Minn. was raised to first vice president, Al Manning of Newark, N. J. was elected second vice president, and Kenneth Young of San Diego, Calif. was chosen sergeant at arms.

H. T. McDermott of Chicago was re-elected secretary and Charles G. Bell of Fresno, Calif. was retained as treasurer.

William Smallwood of Toronto was elected a director for a two-year term, while Robert Duke of San Antonio, Texas was chosen to fill the unexpired term of William P. Emley, who resigned from the board.

Re-elected directors for two years were Orville W. Brown of N. Miami, Fla., J. Lawrence Hall of Nashua, N. H., Carl Howenstine of Canton, Ohio, and William V. Peek of Birmingham.

PAUL REED HONORED

The new board of directors awarded an honorary membership in the society to Paul B. Reed, its educational director, in reward for his long services to the group.

It also announced that the 1957 convention will be held on Nov. 16 and 17 in the Hotel Morrison, Chicago. It will immediately precede the opening of the ARI Exposition.

NEXT CONVENTION SITE TO BE ANNOUNCED SOON

The convention committee is studying invitations from Reno, Nev. and Toledo, Ohio for the 1958 convention. Decision will be made in about 60 days, Secretary McDermott said.

Howenstine won himself and the society some local publicity when he dug up a local "ham" radio operator to relay for him a play by play description of the Canton McKinley-Massillon high school football game from Canton.

Howenstine is chairman of the Canton Bulldog Adult Booster club and hasn't missed a Canton-Massillon game since 1920. His enthusiasm was rewarded, for McKinley won, 34-7.

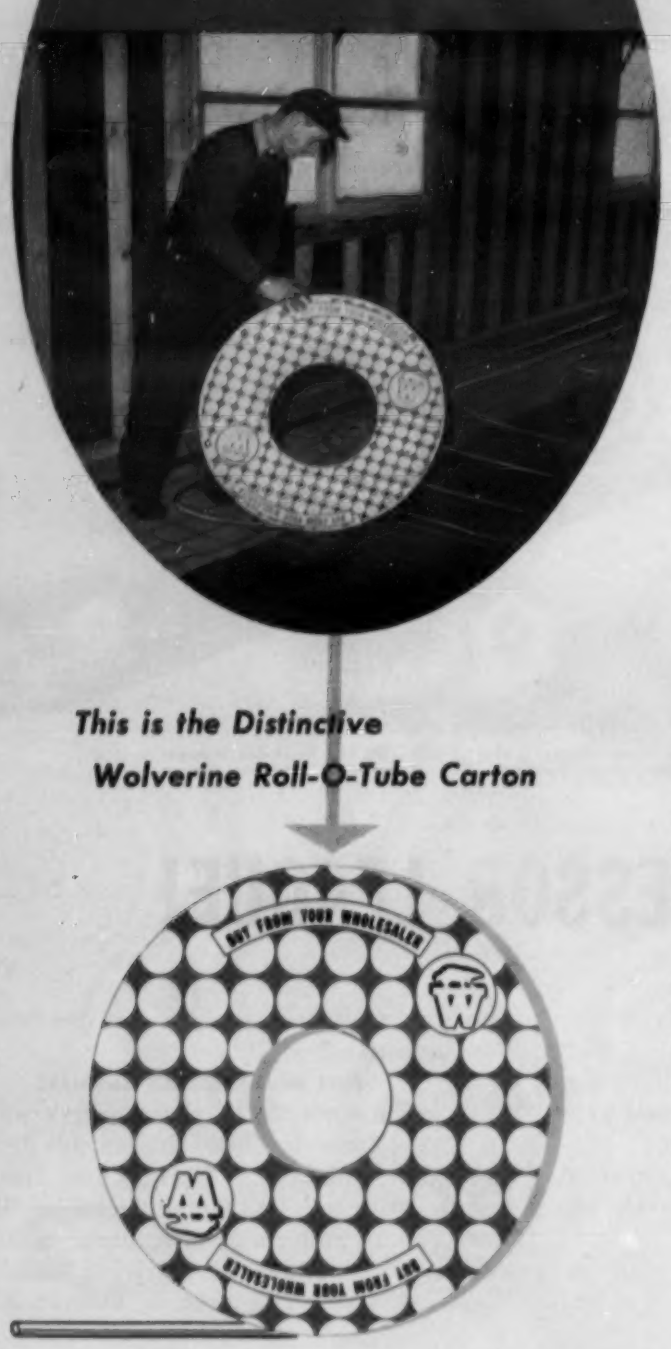
All Air Conditioned Train Makes Maiden Run In India; Plans Set for Wider Use

NEW DELHI, India—India's first all air conditioned train made its maiden run recently from here to Calcutta.

Three third-class chair cars, a sleeping car, a restaurant car, and two luggage cars comprised the train. This was the first time in this country air conditioned comfort was extended to third-class passengers.

The Railway Board announced it plans to introduce similar trains shortly on the Delhi-Bombay and Madras-Bombay trunk routes.

A FREE REEL *with* EVERY ROLL



This is the Distinctive Wolverine Roll-O-Tube Carton

Every time you sell a carton of Wolverine Roll-O-Tube® you give your customers *—absolutely free—*a valuable reel to help make their work easier—save them time!

HERE'S HOW IT WORKS!

The Roll-O-Tube carton—because it is round and rolls—can actually be used as a reel. To get a straight, kink-free line the plumber fastens the copper tube at one end and reels the carton back.

But that isn't all. Wolverine Roll-O-Tube has still other time-saving advantages. Its circular shape permits it to be rolled like a hoop—a feature that permits fast, easy handling. Its contents are easy to identify, it has a zip-quick gummed tape opening and unused tube may be left in the carton—protected against damage and dirt until needed again.

Describe these Roll-O-Tube features to your customers. Singly or combined, they're "reel" sales boosters. Remember, too, that every Wolverine Roll-O-Tube carton tells your customers to BUY FROM YOUR WHOLESALER.

WOLVERINE TUBE, 1413 Central Avenue, Detroit 9, Mich.

DIVISIONS OF CALUMET & HECLA, INC.
CALUMET DIVISION
WOLVERINE TUBE DIVISION
CANADA VULCANIZER & EQUIPMENT CO., LTD.
FOREST INDUSTRIES DIVISION
GOODMAN LUMBER CO.

WOLVERINE TUBE
Division of Calumet & Hecla, Inc.
Manufacturers of Quality-Controlled Tubing and Extruded Aluminum Shapes

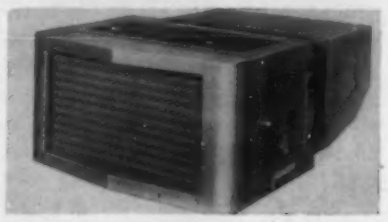
PLANTS IN DETROIT, MICHIGAN, AND DECATUR, ALABAMA. SALES OFFICES IN PRINCIPAL CITIES.
EXPORT DEPT., 11 E. 40TH ST., NEW YORK 16, N.Y.
5507

For more information about products advertised on this page use Information Center, page 16.

360-Lb. Constant Speed Hydraulic-Drive Unit Meets Truck Cooling Needs 35-50°

SOLON, Ohio — Introduction of a "compact, light-weight" hydraulic-drive Hunter "Cargo Cooler" marks the entry of Hunter Mfg. Co. here into the field of mechanical refrigeration for the transport industry.

Hunter has been a manufacturer of transport heating and dry ice refrigeration systems for more than 18 years.



COMPACT 360-lb. "Cargo Cooler" developed by Hunter Mfg. Co.

'CAPABLE OF HOLDING NEEDED TEMPERATURES'

"The new mechanical refrigeration unit, Hunter Cargo Cooler model HE-15-A, weighs only 360 lbs.," the company pointed out. "It has a cooling capacity of 14,200 B.t.u. per hour at 20° F. evaporator and 90° F. ambient temperatures, capable of maintaining required temperatures under the must severe conditions.

"It is designed to meet protective refrigeration requirements in the medium temperature ranges—between 35° F. and 50° F.—in 4-wheel truck bodies up to approximately 14 ft. in length, for either long or short haul operation. Subsequent Hunter mechanical models will be available for higher capacity truck and trailer requirements.

The new Cargo Cooler is mounted in the front wall of the truck body above the cap with approximately two-thirds of the unit outside the cargo area.

POWER INPUT NEEDS 'EXTREMELY LOW'

"Power input requirements per unit of refrigeration capacity are extremely low," the company said. "Power from the truck engine is transmitted to the cargo cooler through a hydraulic pump which drives the refrigeration system at constant speed—regardless of vehicle speed. A fully automatic thermostat starts and stops the unit to maintain the pre-set temperature.

"When truck is parked, an optional, auxiliary electric motor which plugs in on available current, either 110 or 220 a.c., may be used to assure safe, overnight cargo protection."

Novi Div. To Be Sole Distributor for American Truck Refrigeration Systems

MONTGOMERY, Ala. — American Mfg. Co. here, manufacturer of truck and trailer refrigerating equipment, has announced the appointment of Novi Sales & Service Co., Inc. as exclusive national distributor for its "Arctic Traveler" systems.

Novi's parent organization, Novi Equipment Co. of Novi, Mich., manufactures automobile air conditioning systems which are sold, installed, and serviced through a coast-to-coast network of 82 direct, factory-operated branches, it was pointed out.

John G. McManus, general manager of American Mfg., said the new working arrangement between the two companies became effective the first of this month.

"Under this arrangement," it was stated, "no user of Arctic Traveler transportation refrigeration systems need be more than a few hours' run of a Novi branch in the eastern, southern, central gulf, or any of the western states.

American's factory branch in metropolitan New York City will continue to service that area plus the New England states.

Forrest To Head Redmond Special Product Sales

OWOSSO, Mich. — Appointment of Gerald Forrest as sales engineer in charge of the Special Products Sales Div. of Redmond Co., Inc., manufacturer of fractional horsepower electric motors, has been announced by M. J. Koenig, general sales manager.

Forrest previously was a partner in the Forrest-Weber Corp.

1. Field proven superchargers for any application—all temperature ranges—all operating conditions.
2. Power element case and stainless steel diaphragm atomic hydrogen welded into one piece. Field tested for over 25 years.
3. External superheat adjustment. (Internal available).
4. External equalizer. (Internal available).
5. Simple cage assembly contains only one packed stem. Replaceable for quick servicing. Interchangeable for wide capacity range.
6. Tight seating—stainless steel stem and seat.
7. Outlet connections to match distributor requirements.
8. Easy to install, light weight flanges—in widest variety of body styles and connections.
12 points of quality in ALCO
"T" SERIES
THERMO VALVES
ENGINEERED THROUGHOUT FOR TROUBLE-FREE OPERATION!
9 Rugged come-apart constructions—corrosion-resistant materials.
10 Can be mounted in any position.
11 Simple, compact design — only three major parts—interchangeable to provide wide capacity and operation ranges.
12 Easy to inspect, clean and service without breaking line connections—no special wrenches or gauges required.
BUY QUALITY—BUY ALCO
SEE YOUR ALCO WHOLESALER
WRITE FOR BULLETIN 171-56
ALCO VALVE CO.
853 KINGSLAND AVE. • ST. LOUIS 5, MO.
7217
The one complete line of refrigerant controls: Thermostatic Expansion Valves, Refrigerant Distributors, Solenoid Valves, Suction Line Regulators, Flooded Evaporator Controls and Reversing Valves.

AIRO stands for
Speedy, dependable, world-wide service.
Air Conditioning and Refrigeration parts, equipment, supplies.
Write for Wholesale Catalog No. 56
AIRO SUPPLY CO.
2732 N. Ashland Ave. Chicago 14, Ill.

Aggressive Promotion Builds Dealership

Air Conditioner, Furnace, Boiler Offer Live Demonstration In Attractive Showroom; Attention-Getting Devices Added

WARSAW, Ind.—An impressive showroom and an aggressive promotional program have helped Richard F. "Dick" Siefken build a solid reputation for his Comfortemp Co. here.

If there's anyone within miles of Warsaw who doesn't know that Siefken sells General Electric heating and air conditioning equipment or where his place of business is, it's not for lack of effort on Siefken's part.

His eye-catching showroom sits by the side of a well-traveled highway near the edge of this small resort town in northern Indiana's lake district. Attractively arranged displays of heating and cooling units catch the eye during the daytime while spotlights make sure they're not missed at night.

Hand-painted posters large enough to be read from the street call attention to the advantages they offer. The signs bear such phrases as "So efficient—G-E packaged air conditioning" and "Comfort you dream about—G-E Air Wall Heating."

LEFT: Checking promotional file in the impressive showroom of his Comfortemp Co. in Warsaw, Ind. is Dick Siefken. At right are three operational units which serve both as a live display and to heat and cool showroom. Note planters on each side of display.

RIGHT: Pegboard containing pictures of customers' homes and equipment installed in them by the company is an attention-getting feature of the showroom. Leona Dixon, bookkeeper, points to letters from satisfied customers which are also posted on the board.

Representative Equipment Models Grouped In Room

Representative models of G-E equipment are grouped across the entire width of the 48 by 16-ft. showroom. Each unit carries a card identifying it, listing pertinent features, capacity, and price.

Some carry tags saying they are reserved for Mr. So & So—actual customers whose names may well be recognized by visitors, thus giving a more personalized atmosphere to the display.

Three units—an air conditioner, furnace, and boiler—are hooked up for live demonstration. They also serve to heat and cool the showroom. Unsightly piping is partially hidden by growing plants rising from attractive planters on each side of the operating units.

The plants also enhance the appearance of the showroom, making a particularly favorable impression on women, according to Leona Dixon, who handles the office work.

Posts Pictures of Installations Made

Another use of the personal touch is a long pegboard extending at eye level along the back wall of the display room. On this board are posted pictures of customers' homes and of the installed equipment.

Each set of pictures is identified with the owner's name and, in some cases, the name of the builder. Letters of commendation from satisfied customers also are posted on the board.

The pegboard catches the attention of even the most casual visitor, according to Miss Dixon. She said new pictures are put on the board every year. The photos are taken for Siefken by a distributor's representative.

Adding a festive air to the showroom are a number of triangular pennants hanging from the ceiling, carrying such slogans as "No More Hot Sleepless Nights" and "Save Fuel and Money."

In addition, there are several promotional banners on the knotty-pine-paneled walls and literature display racks on both sides of the showroom entrance.

Despite the great number of attention-getting devices, the showroom does not have a cluttered appearance. On the contrary, all the displays are carefully arranged for over-all effect and kept neat and clean.

At night a time clock keeps the showroom lights on for five hours. To produce a "different" effect, Siefken is now playing around with the idea of colored lighting.

Looks for New Ways To Increase Effectiveness

Siefken is always looking for new ways to increase the attractiveness and effectiveness of the showroom. For about a year, he used a mannikin, supplied and smartly dressed by a local apparel shop, in the window. This gimmick drew considerable attention for a long time, he noted.

The showroom also serves as the scene for one of Siefken's most effective promotions—an annual dinner for local building contractors. These affairs are held in February or March when builders are most seriously thinking about heating and air conditioning equipment.

The first dinner three years ago attracted 25 contractors. The event this year drew 40 persons, including contractors, bankers, and utility people.

Emphasis at these affairs is placed on having a good time, though "low pressure" information on heating and cooling equipment is provided.

Siefken not only makes his invitations as unusual as possible to arouse interest in the events, but every year he tries to think up something distinc-

(Concluded on next page)

Announcing . . . Revised for genetron®

In the interest of helping to standardize refrigerant terminology and nomenclature, General Chemical is adopting the revised code numbers shown above for its "Genetron" Super-Dry Refrigerants, effective January 1, 1957.

These numerical designations reflect recommendations of trade and technical associations throughout the industry which have been working jointly and independently on many standardizations, including a common numerical code system for fluorinated hydrocarbon refrigerants.

The numerals for two of the most widely used "Genetrons"—"Genetron" 12 and "Genetron" 11—already conform and, accordingly, are not being changed.

For more information about products advertised on this page use Information Center, page 16.

Dealer's Impressive Showroom--

(Concluded from preceding page)

tively different as a "conversation piece" for his guests.

One year he sent invitations on a large sheet cut to the actual size of the floor space an air conditioning unit would occupy. The invitation told the contractor that this was also the amount of space reserved for him at the dinner. In addition, the sheet contained a menu and return postcard.

Teaser Invites Customers To Meeting, Supper

This year he used a teaser-type, illustrated folder which revealed its message as each fold was opened. Pointing out that "This is your personal invitation to attend our 3rd annual contractor's meeting and buffet supper," the folder said, in part:

"Some homes use coal for heating.

"Some homes use oil or gas for heating.

"Future homes will use electricity for heating and cooling and . . .

"Atomic powered engines driving electric generators will produce low cost power for every household need. Come and get the facts."

The "conversation piece" this year was a miniature heat pump used as a place marker for each guest. At last year's meeting, photostats of a blueprint of a home heating plan served as place mats.

Siefken pointed out that the dinners are catered by a popular local restaurant and cost him only about $1.75 to $1.80 a plate for an excellent meal. He is sold on their institutional value. They have brought many inquiries from contractors months after the event, when the builders wanted help on their conditioning problems.

This year's event was extra special. Tied in with it was the celebration of the firm's 10th anniversary and the adoption of a new name. The prosaic "Warsaw Sheet Metal & Electric Co." was converted to the more descriptive "Comfortemp Co."

Siefken started off a week of hectic activity with a Monday night dinner for 30 G-E dealers from northeastern Indiana and officials of General Electric's distributor in Fort Wayne—Cupp, Inc. Siefken gives Cupp a large share of credit for his success and has always worked closely with the distributor.

The contractor's dinner was Tuesday night. Cupp and G-E representatives were on hand to tell their product stories. Then followed a three-day open house for the general public.

A full-page advertisement in the local paper invited townspeople to see Comfortemp's newly-redecorated showroom, enjoy free refreshments, register for door prizes, receive gifts, and view a U. S. Chamber of Commerce movie on "People, Products, Progress, 1975."

DEMONSTRATING operation of home-made, geared device for filling small refrigerant cylinders from large ones is Mark Nuell, Comfortemp oil burner and air conditioning serviceman. The large cylinder can be easily tipped and locked in position for filling as shown here, saving considerable effort and time.

Five different combinations of heating and cooling units were set up for the open house, including the "Weathertron" which was described as "the most dramatic of man's improvements over nature since the invention of the girdle."

The ad announcing the open house included a picture of the firm's seven-man staff and emphasized the staff's 85 years' total experience in the heating and cooling business.

Though 10 years old, the company moved into its present building on East Winona Ave. and acquired its G-E franchise only three years ago. At that time, it bought out the equipment and stock of a local sheet metal shop and moved it into the new building. The present shop is large enough and contains all equipment required.

Uses Much Newspaper Advertising

A good share of Comfortemp's promotional budget is spent on newspaper advertising, Siefken said. The firm runs a 2-column ad of 12 in. or more in the local paper every day. Sometimes the ads are as large as 30 in. Some direct mail is also used. As a goodwill builder, the firm gives away small items at Christmas.

The company reports good response to the newspaper ads. However, most of its business results from word-of-mouth advertising, according to Siefken.

Because of this, Siefken lays emphasis on quality of workmanship and prompt service. He insists on quality workmanship from his men. Proof that he gets it is indicated by the number of satisfied-customer referrals he receives.

Siefken recalled as a typical instance that a woman visiting a local beauty shop had complained to another patron: "I can't get a serviceman to come out to the house." The customer replied: "Why don't you get Dick Siefken. He'll come out."

Commented Siefken: "That kind of thing is dynamite in building a business."

Four "extra touches," which are ordinarily optional in heating and cooling installations are included in all of Siefken's contracts. They are (1) a fresh air intake in all homes, (2) a humidifier in every furnace, (3) convas connections between duct and plenum, and (4) a cork or cement base for all furnaces.

These items, made a part of the contract for the customer's benefit, are "four big talking points" in promoting sales.

Siefken also uses a printed proposal which spells out everything that will be included in the job so the customer will know just what he's getting.

While the major portion of his business is in heating, Siefken reports considerable interest in air conditioning, even in such a small resort town.

In the past three years, he has installed air conditioning in nine homes, one factory, and a number of small business places.

Code Numbers

SUPER-DRY REFRIGERANTS

. . . in the interest of standardizing refrigerant terminology and nomenclature

PRESENT GENETRON CODE NUMBER	CODE NUMBER TO BE USED EFFECTIVE JAN. 1	COLOR-CODE	REFRIGERANTS
genetron 11	**11**	ORANGE LABEL	TRICHLOROMONOFLUOROMETHANE
genetron 12	**12**	WHITE LABEL	DICHLORODIFLUOROMETHANE
genetron 141	**22**	GREEN LABEL	MONOCHLORODIFLUOROMETHANE
genetron 226	**113**	PURPLE LABEL	TRICHLOROTRIFLUOROETHANE
genetron 320	**114A**	DARK BLUE LABEL	DICHLOROTETRAFLUOROETHANE

"Genetron" Super-Dry Refrigerants are stocked and recommended by America's leading air conditioning and refrigeration wholesalers. When ordering from them in the year ahead, please use these revised code numbers to designate the "Genetrons" you need.

GENETRON DEPARTMENT

GENERAL CHEMICAL DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 Rector Street, New York 6, N. Y.

For more information about products advertised on this page use Information Center, page 16.

CRMA Expects Good Business In '57--

(Concluded from Page 1)

industry's sales, the discussion revealed.

Much of this year's demand represents a continuation of the trend from small service-type neighborhood food stores to large supermarket installations. However, in many such areas the saturation point has been reached, so that increased difficulty in securing financing for such marginal projects is considered, as one member of the forecast panel emphasized, "a blessing in disguise."

The panel agreed, however, that the credit situation has halted or at least deferred many such projects that are economically sound, which may be reflected by a lessening of large-volume fixture sales in the future.

It was felt that this factor, plus a pronounced slackening in population movement from city to suburb, may result in a somewhat lower volume rate after the second quarter, although next year as a whole should compare very favorably with both 1956 and 1955.

Members of the panel were Reese L. Harrison, president, Friedrich Refrigerators, Inc.; C. V. Hill, president, C. V. Hill & Co., Inc.; W. B. McMillan, president, Hussmann Refrigerator Co.; and Edward N. Northey, president, Herrick Refrigerator Co.

Sees Upped Demand In Institution Field

Northey presented a special report on the sales outlook in the institution field in which he predicted substantially increased demand throughout 1957 for manufacturers serving that market, due to the country-wide toll road program, and the assured construction of many new schools, hospitals, and other institutions with funds already appropriated.

A second panel of executives, spearheading a discussion of management and production problems, gave a somewhat less optimistic appraisal of next year's probabilities. They pointed out that costs of materials and components have already risen 5% to 7% since the Big Steel settlement last summer set off a wave of compensatory adjustments by the industry's suppliers, and predicted that labor will continue to press for a larger share of the manufacturer's sales dollar.

Members of the group were urged to pay particular attention to the effect of lowered volume on overhead expense and fixed charges in view of relentlessly rising break-even points, to take such further steps as may be possible to boost productive efficiency and to improve inventory turnover rates.

A tendency to overbuy as a hedge against rising prices was condemned as economically unsound because the practice ties up working capital capable of producing a great yield in the form of finished goods sales. This panel was composed of Edwin B. Ahrens, president, The C. Schmidt Co.; J. H. Coolidge, president, Sherer-Gillett Co.; and William Fogel, president, Fogel Refrigerator Co. A corollary discussion of employment conditions in the industry was led by S. D. Vander Weg, Director of Operations, Tyler Refrigeration Corp.

Manufacturers and distributors of commercial refrigerators throughout the industry were warmly commended for their adherence to conservative credit policies in a report by Mark Allen, treasurer, Weber Showcase & Fixture Co., Inc.; L. O. Bower, executive vice president, Sherer-Gillett Co.; and George H. Mayhew, secretary-treasurer, Tyler Refrigeration Corp. In spite of a great variety of leasing plans and other "painless credit gimmicks" being promoted in the field, plus increased pressure from the trade for smaller down payments and longer terms, preferably with balloon-note provisions, the panel reported that most banks, finance companies, and other buyers of commercial paper are continuing to observe the same realistic policies that have been followed in the industry for many years. The result has been an extremely low and favorable default factor.

A report on the highly successful work of the CRMA Traffic Committee in securing rail and motor carriers' consideration of a series of new classifications proposals was approved.

Commercial Units May Be Included In One Freight Classification

It disclosed that measures now pending before both the railroad and trucking industry classification authorities would make it possible for all commercial refrigerator products to be included in a single freight description, as well as providing substantial reductions in the present carload and truckload minimum weight requirements.

The men responsible for the group's traffic program, Leslie H. Fischer, Tyler Refrigeration Corp., the committee's chairman; William L. Brown, Hussmann Refrigerator Co.; and Normal E. Seidel, McCray Refrigerator Co., Inc., traffic directors for their respective organizations, were given a unanimous vote of thanks for their efforts.

CRMA President Joseph W. Krall, president, McCray Refrigerator Co., Inc., was chairman of the meeting. He announced that the association's executive committee had received and accepted an invitation from the Weber Showcase & Fixture Co., Inc., to hold the 1957 spring meeting-plant-tour and production conference in Los Angeles next April.

It will be the seventh in a series of such meetings, which feature a first-hand study of a manufacturer's factory facilities by the production and engineering staffs of other member companies, followed by an exchange of suggestions for promoting plant efficiency and product improvement. It was voted to invite member executives' wives to attend the social functions being planned in connection with the meeting.

Tyler Outlet Opens

SHREVEPORT, La. — Opening of the Tyler Refrigeration Co. at 2119 Marshall St. was announced here recently by G. E. "Mack" McKinley and John H. Sturdivant. The company will feature the complete Tyler refrigeration line.

McKinley, a refrigerator salesman for the last seven-odd years, planned many stores now operating in the area, it was pointed out.

Sporlan announces a complete line of replaceable core Catch-Alls with these 5 great advantages

1 The performance record of the famous Sporlan molded porous Catch-All Core, that keeps air conditioning systems perfectly clean, perfectly dry and acid free, is known by engineers everywhere.

2 The cores are individually activated to a high degree and packed in sealed cans to insure Peak Performance when installed.

3 Through superior engineering and design, the Sporlan replaceable core Catch-All achieves large flow capacity with low pressure drop.

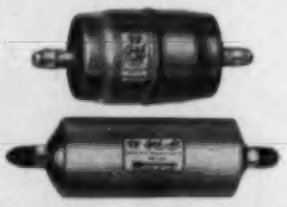
4 As a result Sporlan replaceable core Catch-Alls are installed in the main liquid line instead of a by-pass, affording maximum drying and filtration at all times.

5 Main line installation means simplified piping and greater over-all economy.

for air conditioning from 5 to 100 tons F-12

Now there's a Sporlan replaceable core Catch-All available to give you Peak Performance on any size air conditioning application. Ask your Wholesaler about them today.

Remember . . . Peak Performance on all installations is yours when you buy Sporlan Right Down The Line.



Non-replaceable core Catch-Alls for refrigeration and smaller air conditioning installations are also available.

SPORLAN TF VALVE COMPANY
7525 SUSSEX AVENUE
ST. LOUIS 17, MO.

EXPORT DEPT. AD. AURIEMA INC.
89 BROAD ST., NEW YORK 4, N. Y.

For more information about products advertised on this page use Information Center, page 16.

'Operation Saturation' To Hit 110 Major Markets As Mitchell Plans Huge $2.5 Million Ad Campaign

CHICAGO—A $2,500,000 advertising campaign, biggest in the company's history, has been planned by Mitchell Mfg. Co. for its 1957 line of room air conditioners.

More than $1 million will go into "Operation Saturation," a local newspaper-TV-radio ad campaign concentrated on 110 major markets across the country, according to Howard Haas, vice president in charge of advertising and sales promotion.

"Operation Saturation" will be conducted over eight consecutive weeks during the summer and will feature the new sweep cooling concept called "Roto Cone," it was further pointed out.

Every day, in each paper selected for the campaign, five individual ads will be run by Mitchell dealers at their local rate for participation in the $1,000,000 cooperative advertising fund.

In addition, Mitchell will buy three 1-min. radio spots each day and, where television time is available, one 1-min. television spot.

Once each week, Mitchell will run a newspaper promotion called the "Bonus Blast." In this weekly ad, all the small ads run during the preceding week will be repeated on a single page and grouped around an island 3-col. by 10-in. Mitchell institutional ad.

The program will continue for eight weeks.

During the eight-week period, emphasis will be on Roto Cone for the island ad, but every week a different theme will be featured that will tie all the ads together into an over-all factory-sponsored retail selling program.

"We have developed 'Operation Saturation' to give our dealers full benefit of the remembrance multiplier of multiple run-of-paper ads in a single issue," Haas said. "Through the program they will be continuously represented in media in their own community and their names will be linked with Mitchell daily through run-of-paper ads and weekly through the 'Bonus Blast.'"

The remainder of Mitchell's budget will be spent on national advertising, printed literature and merchandising aids, and point of purchase displays.

Mitchell currently is planning to use for national media *Life, Time, Better Homes & Gardens, The New Yorker,* and *The Saturday Evening Post,* Haas indicated.

Rothbardt & Haas, Chicago, is Mitchell's advertising agency.

Knodel Appointed York Room Unit Distributor

YORK, Pa. — The Harry Knodel Distributing Co., 1187 Gilbert St., Cincinnati, has been appointed a York distributor for that area, it was announced by R. E. Cassatt, commercial sales manager, York Corp., a subsidiary of Borg-Warner Corp.

The firm will distribute York room air conditioners in Ohio, Kentucky, and Indiana, it was explained.

Firm president is Harry Knodel. J. H. Tygrett is general sales manager.

Sales Top 1,500,000 In '56

See 2,000,000 Annual Room Conditioner Market Soon

HOLLYWOOD, Fla.—A market for two million room air conditioners a year is fast approaching, delegates to the Gibson national sales convention were told by J. F. Klintworth, manager of room air conditioner sales.

Industry sales in 1956 topped the 1.5 million point for the first time despite a cool summer, Klintworth estimated. "The selling season has been extended to a point where the room air conditioner is rapidly becoming a year-round sales item," he said.

Fewer companies are getting a greater share of the business as marginal firms decline rapidly in importance or go out of the business completely.

"From a high of more than 100 different brands in the market only two years ago, the number of brands offered has dropped to less than 50 in 1956 and should dwindle more in 1957," said Klintworth.

Gibson sales of room air conditioners in 1956 more than doubled the 1955 level, he revealed. Similar gains are forecast for 1957.

"In 1956 the major portion of new merchandise was moved at the retail level before the end of June," Klintworth said. "The retail selling season began in January, increasing in February, March, and each successive month through June.

"The inventory roles of 1952 and 1955 also pointed up a lesson. The industry can withstand a 300,000 unit carryover in any year at this stage in its development without suffering complete price deterioration. Without doubt, the baby grew up in 1956."

Oppossum Is the 'Bug' In Room Unit

MEMPHIS—This time it was an opossum!

An air conditioning serviceman answering a call to "get the bugs out" of a room air conditioner found a half-grown opossum had made his nest in the window cooler.

Declares Dividend

BUFFALO — Directors of Buffalo Forge Co. have declared a 25-cent common dividend, payable Dec. 18 to stock of record Dec. 6. On Oct. 8 the company declared a dividend of 35 cents a share to be paid Nov. 28.

IF
you make
parts
for the
Air Conditioning
and
Refrigeration
Industry
—you'll keep
QUALITY
and
PRODUCTION COSTS
in balance
when you use
H & H
STRAIGHT LENGTHS
Originators and Sole Makers of METALFLO Tubing
In either brass or copper—you will find the quality never varies. Because the length, the O.D., the wall thickness, the grain size and temper is always exactly as you specify—costly production delays are kept to a minimum. Available in random lengths or cut to the length specified; .072" O.D. up to and including 1¾" O.D. with wall thickness of .065" and lighter.
Expect the BEST brass and copper products from
H & H Tube
AND MANUFACTURING COMPANY
271 N. Forman Avenue, Detroit 17, Michigan • Offices from Coast to Coast
METALFLO
LOCKSEAM
COIL STRIP
AND
SEAMLESS TUBING
TUBULAR PARTS

E-Z-SEE
LIQUID INDICATOR
NEW FLO INDICATOR FLAP SHOWS ALL FLOW CHANGES
Analyze flow, function of expansion valve, by means of E-Z to SEE sensitive flap, instantly responsive to variations in flow. Positively leak-proof — hundreds of thousands in use.
Available to Wholesalers everywhere
REMCO
INCORPORATED
ZELIENOPLE, PA.

Inside Dope

By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1)

"Tart" is a nice girl; "knocked-up" means tired out; "screw" means wages. Imagine the shock at hearing a young woman of apparent culture say that she had "stood in line about an hour to get my week's screw from the boss, and now I'm all knocked up."

"Good-o" is the Australian equivalent for "O.K."—meaning agreement, or acquiescence, or confirmation. Scarcely a conversation passes without "good-o" being uttered. The same can be said for "too right," which also means "I agree," (English), or "you said a mouthful" (American).

To say that a man has "gone crook" is to intimate that he has lost his temper, or is "on the muscle."

Very Black People

One thing about Australia differentiates it from all other portions of the globe. And that is its completely unique, indigenous native life—its Stone Age men and animals.

Australia, you see, is the world's oldest separate and distinct continent. It was part of Asia millions of years ago. Then it was cut off, and became an island continent before higher forms of animals, including man, could come across the land-bridge.

Stone-age men were good canoe navigators, however, and some of them sailed over to Australia, bringing their dogs—the barkless dingoes — with them.

If you have any curiosity at all about what your remote ancestors of the Stone Age were like—and you should—you can see them living any day of the week in northern Australia.

When born, the little pickaninnies are quite light; but soon they darken—all that is, but the palms of their hands. Their hair is light brown to burnt-corn in color, and it's either absolutely straight or gracefully wavy (never kinky). Eyes are brown, with sickeningly unhealthy-looking whites (yellowed, as if stained by tobacco juice).

Naturally, the old men arrange things pretty much to suit themselves. The young and attractive girls fall to their lot, and so do the choice morsels of food. Younger men take old women for their first wives.

The "lubras" are left to their own devices in childbirth. The men couldn't think of interrupting a march while a pickanniny was coming into the world. The "gin" (mother) is simply left behind, and it's up to her to catch up with the procession after she has borne her new offspring.

Apart from the celebrating of elaborate ceremonials and the observance of traditional customs, the most important thing in the life of the aborigines is food. Literally they live to eat. And what a menu!

Fish of all kinds, wild pigs, dingoes, lizards, dugongs, frogs, birds, snakes, possums, rats, kangaroos, wallabies, pelicans, wild turkeys, bats, eggs, grubs and caterpillars, honey turtles, certain species of ants, and practically every root, herb, nut, and plant which grows in Australia are all "tucker" (food) to the aborigines.

Blackfellows can "smell" water (and they can certainly "smell it up"). One hears that when a prospector needs water he catches a blackfellow and stuffs his mouth with salt. All the prospector need do then is follow the native to a water hole. He's sure to find one quickly. Women carry water in human skulls, or in "dilly bags" which they weave from their own hair.

When camping on one hunting ground for a time, food is sometimes stored in the earth, although the aborigines have no conception of the meaning of refrigeration. When the hunting gets poor, the aborigines move to another camp. Heating means nothing to them either. At night they keep warm by lying amongst their dogs, or on earth which has underlain a fire-bed.

A Darwin jailer told us about a group of blackfellows, miserably cold in a damp prison cell, who were thrown some blankets. They could not grasp the idea of using blankets to keep warm, even when it was demonstrated patiently. So they continued to shiver while the blankets lay in a heap on the stone floor.

Of Course You've Heard About the Boomerang

Abroad the Australian aborigines are perhaps best known for their invention of the weapon which describes a curve when thrown—the boomerang. Those you have seen demonstrated in America will come back to the thrower, after making a complete circuit through the air. These are but toys to the aborigines.

The boomerang used in hunting or fighting is longer than the toy or "playabout" boomerang, less curved, and has straight ends.

Its business is to go straight for a distance, then "break" suddenly around the edge of a cliff or a bush to nail a bird or animal. Or, it may be used in fighting to get around shields, or barricades.

Aborigines toss the toy boomerang around with a facility which would completely wow a vaudeville audience. They can hurl their curved sticks a hundred yards out and back—causing them to figure-eight, Dutch-roll, loop-the-loop, come to a virtual standstill in the air, and then float lazily back to the hurler.

Australia obviously is a wondrous land for travelers.

Tasty Food—the Greatest

Nowhere in the world will you taste better food than in Australia.

Oysters are much used in Australian cooking, and well, too. Especially will you like oysters Kilpatrick, which are baked and served on the shell, wrapped in bacon, and doused with a most piquant sauce.

An excellent gravy, thick with oysters, is served with steaks. Also, poached eggs atop those wonderful Australian steaks and chops taste better than Frenched sauces.

Potatoes are baked without the skins, and served a dozen at a time. Sandwiches are cut into two-inch squares. (My friend Peter Sloane from the Mulwalla sheep station, walked into a San Francisco restaurant on his first visit to the United States and ordered "a dozen assorted sandwiches." Was he amazed at the mountainous stack of three-deckers the waitress brought him!)

A cantaloupe is a "rock melon." A cookie is a "biscuit."

Coffee is prepared with a lot of hot milk—almost half-and-half—and tastes more like bitter cocoa than coffee. The tea is par excellence. Tea and coffee are served about 20 degrees hotter than they are in America, and beer about 10 degrees warmer.

The multiplicity of silverware will get you. It is laid in bewildering rows on three sides of the plate—left, right, and top. An Australian always employs two implements at once, using one as a pusher. He carefully loads his fork with a variety of food, packs it on with the knife (which is gripped like a pencil), then eats it.

It'll take a bit of coaching for you to learn which knives, forks, and spoons are for what foods. But you'll have the time of your life, and eat mighty well.

Super

SHADED POLE MOTOR

for air conditioning and air moving applications

Gives Your Product These Sales Advantages

*Long life . . . quiet operation . . . high operating efficiency . . . lasting good appearance — these sales-stimulating motor advantages are assured your product when it is teamed with a Lamb Electric *super* shaded pole motor.*

Reflecting our 41 years of experience successfully powering many types of household appliances, these advantages result from the following features:

- UNI-SPUN* STATOR FRAME for maximum rigidity
- HIGH DIELECTRIC slot insulation and extra varnish treatments
- AL-SPUN* ALUMINUM ROTOR CAGE for maximum conductivity
- DIE-CAST END FRAMES . . . sturdy, lightweight, corrosion-resistant
- BEARINGS widely spaced, amply dimensioned
- AMPLE OIL RESERVOIR . . . positive oil circulation
- SHAFT precision ground to controlled surface finish
- MOUNTING absorbs vibration
- ADVANCED DESIGN, quality materials, and up-to-date manufacturing methods
- FINISH . . . moisture and abrasion-resistant

*Our district engineers will be glad to demonstrate the advantages of Lamb Electric *super* shaded pole motors for *your* products.*

*Reg. U. S. Pat. Off.

UNI-SPUN* STATOR FRAME

Anchored laminations, ample back iron, strong pole tips mean core rigidity, better heat dissipation, quiet operation.

AL-SPUN* ALUMINUM ROTOR CAGE

Heat-treated for lowest rotor losses. Integral cooling fan and vented core. Dynamically balanced.

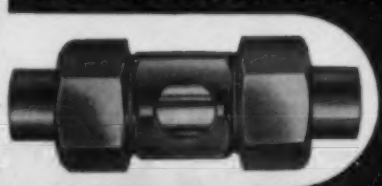
THE LAMB ELECTRIC COMPANY • KENT, OHIO

In Canada: Lamb Electric—Division of Sangamo Company Ltd.—Leaside, Ont.

Lamb Electric

SPECIAL APPLICATION FRACTIONAL HORSEPOWER MOTORS

NEW unit SAVES TIME on the PRODUCTION LINE



"250" SERIES

LIQUID EYE® POSITIVE SEALING INDICATORS

designed to save you even more time and money.

The new "250" has all the proved Liquid Eye advantages *plus* these newly engineered features:

- A completely, self-contained economy unit that's ready for immediate installation.
- smaller — more compact, simplified.
- designed to eliminate possible assembly errors.
- preformed copper extension eliminates need for separate gaskets — foolproof installation.

If you have a special problem, consult with Allin engineers. Custom units can be made to your exact specifications.

Write today for catalog covering the complete Allin line.

Allin

ALLIN MANUFACTURING CO.

410 N. Hermitage Ave. • Chicago 22, Illinois

Over 1,000,000 Liquid Eyes Sold to Date!

For more information about products advertised on this page use Information Center, page 16.

TWO-DIRECTIONAL cooling, a newly-designed air control system of Kelvinator's 1957 room air conditioners is said to cool two rooms at the same time using the same unit. Vertical and horizontal louvers in front of twin air nozzles provide flexible control of the units which extend only a few inches into the room.

Kelvinator--

(Concluded from Page 1)

with full lines in the spring, eliminating short inventories when demand is greatest.

Twin Air Nozzles, Louvers Provide Operation

Combination of twin air nozzles and dual sets of directional louvers provides the basic operation for two-directional cooling, Kronauge said.

"'Sets of horizontal and vertical louvers direct air from the twin nozzles," it was explained. "Each set of louvers can be adjusted independently. This flexibility of control minimizes drafts and provides cooling exactly where desired."

All models have been styled in muted-color plastics with a minimum of bright work, so that they blend in with traditional or modern decor. Capacities range from ¾ hp. to 2 hp. The models have replaceable fiber glass filters.

'Thin-Style' Models for '57

New to Kelvinator's line is a series of "Thin-Style" models that may be installed in the window or through the wall.

"Only 17¾ in. deep, these compact room air conditioners keep inside and outside overhang at a minimum, exceeding the average residential wall by little more than 7 in. when installed in the window."

"They may also be installed through the wall, providing a flush, 'built-in' appearance with only 2½ in. projecting from the plaster."

There are three models in the Thin-Style series; two 1-hp. models, one operating on 230 volts (RCG-109W) and the other on 115 volts (RCG-109WS), and a 1½-hp. model (RCG-159W) operating on 230 volts.

All three Thin-Style models feature two-directional cooling, fresh air and exhaust vents, and three-speed fan.

Kelvinator's "Custom" series include four models; a ¾-hp. unit operating on 115 volts (RCG-78RS); 1-hp. model, 230 volts (RCG-108R); 1-hp., 115 volts (RCG-108RS); and a 1½-hp. model operating on 230 volts (RCG-158R).

"All Custom models feature new two-directional cooling," it was noted. "Adjustable thermostat and fan switch are combined in an easy-to-use single knob, and the exhaust vent is dial-controlled. These models are flush-mounted, extending only 4 in. from the window sash."

Kelvinator is also offering a ¾-hp. casement window model (RCG-78C), either 115 or 230-volt models. The unit has concealed pushbutton controls, adjustable thermostat, two-speed fan, and fresh air vent. It may be mounted in a "half-out" or full inside position so that the window may be closed.

The "Masterpiece" is a 2-hp. room air conditioner said to have the capacity and styling suitable for both large homes and offices. Featuring three air nozzles with infinite directional control, this model (RCG-209R) has adjustable thermostat, concealed pushbutton controls, three-speed fan, and fresh air and exhaust vent.

The deluxe model (RCG-101R) has a single knob adjustable thermostat and fan control. "Air nozzles are pre-set for maximum cooling."

No suggested retail prices were announced. The company said the B.t.u. capacities shown in the following table "are guaranteed to be in conformance with ARI 110-56 Test Standard effective in 1957."

Model	Capacity B.t.u.*	Hp.
RCG-109W	10,400	1
RCG-109WS	8,535	1
RCG-159W	12,380	1½
RCG-78C	6,560	¾
RCG-78RS	6,775	¾
RCG-108RS	8,195	1
RCG-108R	9,340	1
RCG-158R	11,550	1½
RCG-101R	8,230	1
RCG-209R	15,540	2

*Capacities shown are guaranteed to be in conformance with ARI 110-56 Test Standard effective in 1957.

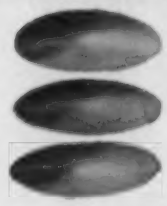
We're SPECIALISTS in
REFRIGERATION
AIR CONDITIONING
ELECTRIC MOTORS
PARTS and Supplies
WE SAVE YOU MONEY because we're specialists, with the largest selection in the world—over 10,000 items—at lowest prices. They're all illustrated, priced and described in our newest HARRY ALTER DEPENDABOOK—"the standard of the trade."
Write on your letterhead for the DEPENDABOOK
WHOLESALE ONLY
The HARRY ALTER CO., Inc., 1717 S. Wabash Ave., Dept. A, Chicago 16, Ill.

MUELLER BRASS CO.
ONLY Linemaster
DIAPHRAGM LINE VALVES HAVE THESE 2 EXCLUSIVE FEATURES

This completely redesigned valve is available in five straight-thru and angle types with flare, solder and M. P. T. connections. See them at your wholesalers . . . Take some along . . . and on your next service call install them . . . You can't do better for your customers.

1. SUPER SEALING

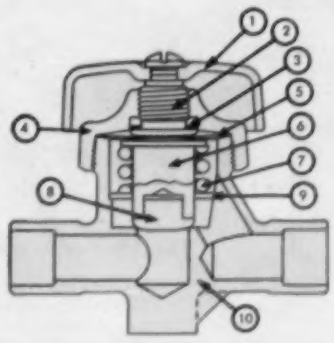
A phosphor bronze diaphragm between two stainless steel diaphragms gives the LINEMASTER an unbeatable combination for super sealing and long life. Diaphragms pressure wear tested for thousands of openings and closings without failure.



2. SUPER SEATING

In the LINEMASTER, tough, resilient molded nylon seat disc insures positive shutoff even if foreign material is lodged against the seating surface. Mueller Brass Co. pioneered and proved the superiority of nylon for "super seating".

PLUS 10 Ways better in design and construction



1. FORGED BRASS HANDWHEEL combines modern appearance and ease of operation
2. UPPER OPERATING SCREW produced from special, high strength bronze
3. NYLON SEAL eliminates operating screw seizure
4. FORGED BRASS BONNET has big husky wrench flats
5. PHOSPHOR BRONZE DIAPHRAGM and two stainless steel diaphragms service tested for thousands of openings and closings
6. STEM ASSEMBLY is guided to assure perfect seat alignment
7. CADMIUM PLATED STEEL SPRING assures positive return action of stem assembly
8. NYLON SEAT DISC is tough and dependable
9. SPRING SUPPORT RING made from solid brass
10. FORGED BRASS BODY sturdy, full flow design

FREE! ➡

Write today for Refrigeration Kit No. 20
It's packed full of helpful information. Contains:

1) Refrigeration and Air Conditioning Data Book with big, 5-color refrigeration cycle chart
2) Complete Catalog R-155
3) Individual Product Data and Specification Sheets

197

STREAMLINE PRODUCTS
MUELLER BRASS CO. PORT HURON 9, MICHIGAN

MINERALLAC

Hangers
Cable and Conduit
. . . Messenger
Outserves! Outlasts!
In Zinc-plated Steel and Everdur. All sizes. Insulating bushings available. Top quality. Permit quick wiring. *Send for literature.*
MINERALLAC ELECTRIC COMPANY
25 N. PEORIA ST. • CHICAGO 7, ILL.

They'll Do It Every Time

by Jimmy Hatlo

OUR "FILL OUT THE COUPON" AD IS STARTING TO PAY OFF—HERE'S A HOT LEAD OVER IN OSMOSIS COUNTY. GET HOT!
RIGHT, CHIEF—IF I GET THE LEADS, THE SALES ARE AS GOOD AS MADE—
THANKS AND A TIP OF THE HATTIP HAT TO LEO L. NOVAK, 1041 S. SOUTH AVE. INDEPENDENCE, MO.
SO SALESMAN SAM HOT-TIRES IT TO THE OTHER END OF THE STATE—AND WHAT DOES HE FIND?
HELLO—I'M LOOKING FOR CHEDDAR CASABAR—I REPRESENT THE NIPFINGER MACHINE COMPANY....
THAT'S ME! I SEND IN ALL THE COUPONS—I LIKE TO GET MAIL—
1-27
© 1956 KING FEATURES SYNDICATE, Inc., WORLD RIGHTS RESERVED

Mr. Dealer-Contractor: Why Lose Money When It Isn't Necessary?

Disparate selling practices within our industry are neither peculiar nor proprietary. Some establishments dote on them unconsciously—even when available records provide open proof that a "one price to all" policy is the best policy for every contractor and dealer.

The least justifiable yardstick for measuring value, the most successful method for losing customers' goodwill, the most efficient means for putting "funny money" on local ledgers (which lends added meaning to the term "credit risk")—can be attributed to the foolish business practice of Seasonal Pricing.

Holiday sales (Christmas, New Year, inventory clean-ups) comprise a sad example.

Arbitrary SALE prices, which so poorly mirror true values as to fluctuate downward by 50% within a two-month period, truly are bad business for permanent buyer-seller relationships. Folks who paid full price in October get hot under the collar when a neighbor buys the same item for much less in December.

Too many specialty products (particularly air conditioners) have been plagued by profit-cutting, customer-angering, seasonal price variations.

Moreover, much that is wrong with our entire merchandising system today can be traced directly to wide application of that principle of "Keeping up with the Joneses" on the dealer-contractor level.

To speak literally, nobody can call it a "principle," for a principle must have at least a core of decency. That notion of matching retail prices which anyone quotes, in spite of its broad acceptance, is bum business.

The foolishly competitive, "I-can-sell-it-cheaper" merchandising outfit which slashes prices when demand is greatest seldom knows the true value of its inventory, selling costs, or overhead.

The contractor who tries to "keep up with the Joneses" when he sees an alarming cut-price advertisement probably doesn't realize the possible extent of that competitors' desperation.

An otherwise seemingly sound inventory value can be meaningless if Fraidy Fred decides his own inventory is too large, and sells ANYTHING for less than he paid for it. That scared price-cut leads to losses for all his competitors who try to match his fright, "to keep up with the Joneses."

Even the most intimate and useful home specialties, i.e., freezers and air conditioners, still must contend with the specter of seasonal over-enthusiasm and resulting overproduction. Marketing conditions which accompany deflationary trends (as the season wanes) are made of the same stuff, and beget the same results. Example: deliberate *early* over-pricing.

Too many dealers trade dollars on quick-selling articles at a miniscule margin of profit. Better businessmen are eager to SELL relatively slow-moving products at a satisfying profit. They bide their time, and unload either at the top of the market or when competitors quit SELLING.

Conversely, an old-time "staple product," like a furnace or household refrigerator, promoted on the basis of erratic pricing is likely to remain exclusive in its own scope of ownership.

"Exclusive?" Groucho Marx once remarked about a real estate development. "Why, nobody lives there!"

The cost of doing business should be accepted as a legitimate figure in "marking up" whatever you sell, *whenever* you sell it.

Fair-minded people usually agree, too, that a modest profit should accrue to stockholders—and that competitors shouldn't be put out of business simply because a few "nuts" are eager to commit commercial suicide.

That's why seasonal "sales" at a loss are unfair to everyone concerned, and especially to the previously solvent dealer or contractor who falls into this trap.

Why lose money when it isn't necessary?

P.S. Christmas "fright sale" and New Year "inventory clearance" temptations are just around the corner.

Although the poor in Britain receive welfare benefits amounting to 57 shillings per week per family, they pay taxes amounting to 67.8 shillings per week. Thus it can be proved statistically that they pay more in taxes than the value of the benefits they are obtaining.—*London Economist.*

AN INTERNATIONAL INSTITUTION • SUBSCRIBERS ALL OVER THE WORLD

Trade Mark reg. U.S. Pat. Office; Est. 1936

AIR CONDITIONING & REFRIGERATION NEWS

Copyright 1956, Business News Publishing Co.

F. M. COCKRELL, *Founder*

'The Conscience of the Industry'

Published Every Monday by BUSINESS NEWS PUBLISHING CO., 450 W. Fort St., Detroit 26, Mich. Telephone Woodward 2-0924. Subscription Rates: U. S. and Possessions and Canada: $6.00 per year; 2 years, $9.00; 3 years, $12.00. All other countries: $10 per year. Single copy price, 40 cents. Ten or more copies, 30 cents; 50 or more copies, 20 cents each. Send remittance with order.

EDITOR & PUBLISHER, George F. Taubeneck
EDITORIAL DIRECTOR, Phil B. Redeker
ASSOCIATE EDITOR, C. Dale Mericle
ASSISTANT EDITORS: John Sweet, Hugh Mahar, George Hanning, Robert Lacey
RESEARCH MGR., John MacLean

GEN. MGR., Warren Jones
GEN. PROD. MGR., Walter Schuler
ADV. PROD. MGR., A. M. Barrow
CIRCULATION MGR., Herbert Spencer
SUBSCRIPTION MGR., Rosalie Ashley
READER'S SERVICE MGR., Vincine Mogyorodi

PRESIDENT, Edward L. Henderson
ADV. MGR., Robert M. Price
WESTERN ADV. MGR., Allen Schildhammer
ASST. ADV. MGR., Joe Sullivan
ADVERTISING REPRESENTATIVES: Rex Smith, William Zurkan

ADVERTISING OFFICES:
New York, 521 Fifth Ave. MUrray Hill 2-1928-9 Robert M. Price, William Zurkan
Chicago, 134 S. LaSalle St. FRanklin 2-8093 Allen Schildhammer, Rex Smith
Detroit, 450 W. Fort St. WOodward 2-0924 Joe Sullivan
Los Angeles, 4710 Crenshaw Blvd. AXminster 2-9501 Justin Hannon

Member, Audit Bureau of Circulations. Member, Associated Business Publications.

VOLUME 79, NO. 13, SERIAL NO. 1,445, NOVEMBER 26, 1956

PARCE ENGINEERED, DESIGNED CHAMBER

Valley Weathermakers, Inc.
Harlingen, Texas

Editor:

This letter is in reference to an article on page 15 of the Oct. 15 AIR CONDITIONING & REFRIGERATION NEWS concerning "Climate-Controlled" equipment. In reading this article a person gets the impression that Charles L. Needham was entirely responsible for the construction of the chamber and its equipment. This is far from true.

The facts are these: The chamber was engineered and designed by Charles W. Parce of Valley Weathermakers, Inc., Harlingen, Texas, who are dealers for Carrier air conditioning equipment in the Lower Rio Grande Valley with offices in Harlingen, Brownsville, and McAllen, Texas. After several years of experimenting, Parce was able to produce the conditions specified for this type of chamber.

They are as follows — the ability to maintain any temperature between -10° to 125° with a variation of 2° plus or minus the control point and at the same time maintain any humidity between 20% and 95% in this temperature range. Humidity is controlled within 2% plus or minus the control point.

Having assisted in the assembling and installation of these chambers, I am in a position to know that these are the facts. The chamber was manufactured by the Charles L. Needham Mfg. Co. to specifications furnished by Parce. I might add here that they were constructed according to the specifications and worked out very well.

WALTER MARTINS,
Bio Climatic Chambers

AUSTIN JONES BACK IN HOSPITAL AGAIN

2132 Ridgeview Rd.
Columbus 24, Ohio

Editor:

Since you wrote about Austin's illness in your column, "Inside Dope," he has received hundreds of letters and cards from friends throughout the United States and Canada. It was wonderful to hear where old friends are and what they are doing.

Austin is back in the hospital so he cannot thank everyone but he appreciates all the good wishes and hopes some day to thank everyone.

PAT JONES

Handy Way to Subscribe

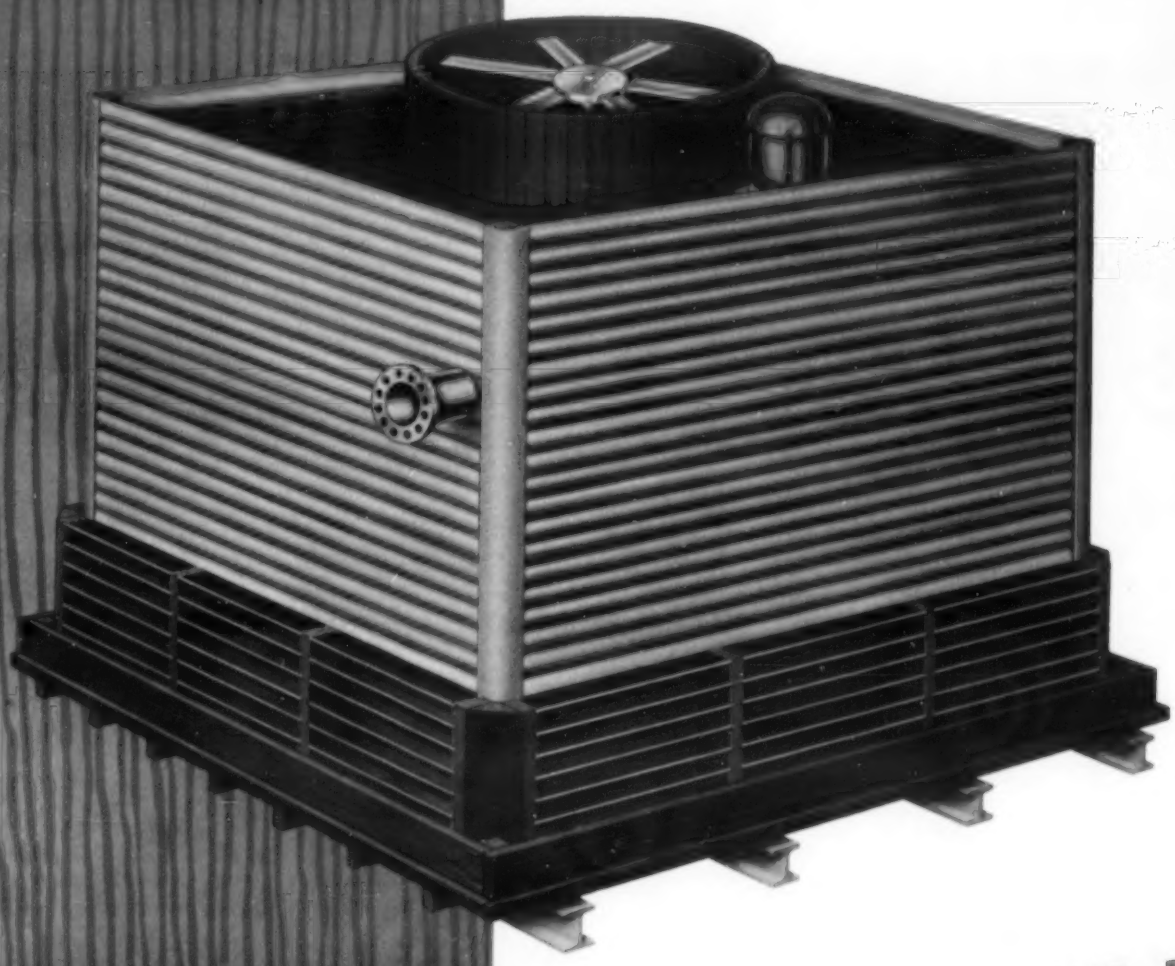
To See the Industry In Action EVERY WEEK

Keep up-to-date on what's going on in your industry. You'll see action weekly in AIR CONDITIONING & REFRIGERATION NEWS. Covers latest news and gives you top how-to-do-it reports on commercial and residential air conditioning, commercial and home refrigeration: manufacturing, contracting, distributing, retailing, and servicing. Read the Industry's newspaper for profit every week. Only $6.00 per year, 52 issues (U.S. and Canada). Foreign: $10.00 per year.

AIR CONDITIONING & REFRIGERATION NEWS 11-26-56
450 W. Fort St., Detroit 26, Mich.
Gentlemen: Send the NEWS every week for one year. ☐ $6.00 enclosed
☐ Bill me ☐ Bill Company.

Name.....
Company.....
Street.....
City ..... Zone ..... State .....
IMPORTANT: Company's Type of Business.....

FLUOR *SERIES* 3

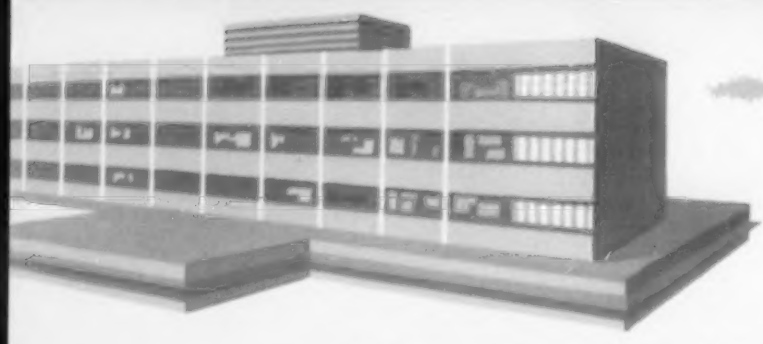


INDUCED DRAFT

fp

AIR CONDITIONING & REFRIGERATION

COOLING TOWERS



SERIES 3

The Series 3 cooling tower is designed specifically for central station air conditioning and refrigeration systems in commercial and industrial plants and buildings. It is furnished in a multiplicity of cell sizes to fit various space requirements.

Common single-cell sizes for installations ranging from 40 to 400 tons of refrigeration are 8′x8′, 8′x12′, 12′x8′, 12′x12′, 12′x16′, 16′x12′, 16′x16′, and 20′x20′. Combinations of these given cell sizes may be used to meet capacity requirements above 400 tons.

Architecturally, the Series 3 cooling tower offers a low profile with no orientation limitations. Structurally, its standard design meets all local and regional building codes. And, in dependable performance, the Series 3 is unexcelled, its basic concept having been proven in thousands of critical industrial installations.

COUNTERFLOW COOLING

The Counterflow principle (water and air moving counter-current to one another) is recognized and proven to be the most efficient method of cooling. Fluor's adaptation of tower-to-principle is evidenced by the high performance characteristics inherent in the Series 3.

EASE OF ERECTION

Accomplished in the Series 3 by simplicity of structural design and economy of prefabricated and preassembled parts. Erection can be made consistent with the timing of overall construction program with or without the services of a Fluor superintendent.

NO CORROSION MAINTENANCE

Low maintenance, noncorrosive features include heart or better redwood framing and filling; cement asbestos sheathing and louvers; enclosed redwood and stainless steel water distributing system; plastic, nonclogging spray nozzles; and, heavily galvanized motor and gear support.

NATIONWIDE SALES & SERVICE

Fluor Air Conditioning and Refrigeration Cooling Towers are available through exclusive representative companies in all major market areas. Experienced service and erection personnel are strategically located to render close customer contact when and where needed.

Outstanding design features for:

WATER

The Series 3 Fluor Cooling Tower features positive pressure-type water distribution as opposed to the open gravity type. Water to be cooled enters into a header and lateral system where it is sprayed uniformly over the filling below. As water falls to the tower basin, it is repeatedly broken up by layers of filling of a predetermined film surface necessary to accomplish the cooling desired.

distributing system

Completely noncorrosive—header and laterals of redwood pipe banded with stainless steel—spray nozzles of nonferrous material. *Being enclosed, the distributing system remains algae free and assures clean, uniform water distribution over the entire cross sectional area of the tower—permits optimum performance, even with varying water rates!*

tower filling

Nailless filling consists of sturdy redwood battens placed on edge and interlocking, with each successive layer of battens mounted immediately above and at right angles to the layer below. *These film pack surfaces present ample redwood film areas to assure ideal water-air contact throughout all operating conditions.*

redwood basin

The Series 3 tower basin is of uniform quality, clear heart tongue and groove redwood, mastic sealed with wicking at all joints. Equipment furnished as standard includes: *silicon bronze nailing; galvanized steel sump; automatic water make-up valve; and, sump cleanout.*

AIR

In the counterflow tower, water remains in contact with the upward sweeping air until it falls into the basin. This long air-water contact effects maximum possible heat exchange. Design and arrangement of air moving and handling components in the Series 3 utilizes and complements this principle by assuring low pressure drop through louvers, uniform distribution of upward sweeping air, and high velocity discharge of exhaust air to virtually eliminate recirculation.

fan and motor

High tensile alloy metal fans are of the low r.p.m., high efficiency, adjustable pitch propeller type. Standard horizontal gear drive or vertical V-belt drive motors are furnished as specified. *Aerodynamic characteristics of fan design assure low sound level—unitized motor and fan support designed as a single operating unit to prevent misalignment of driving equipment.*

two-pass drift eliminator

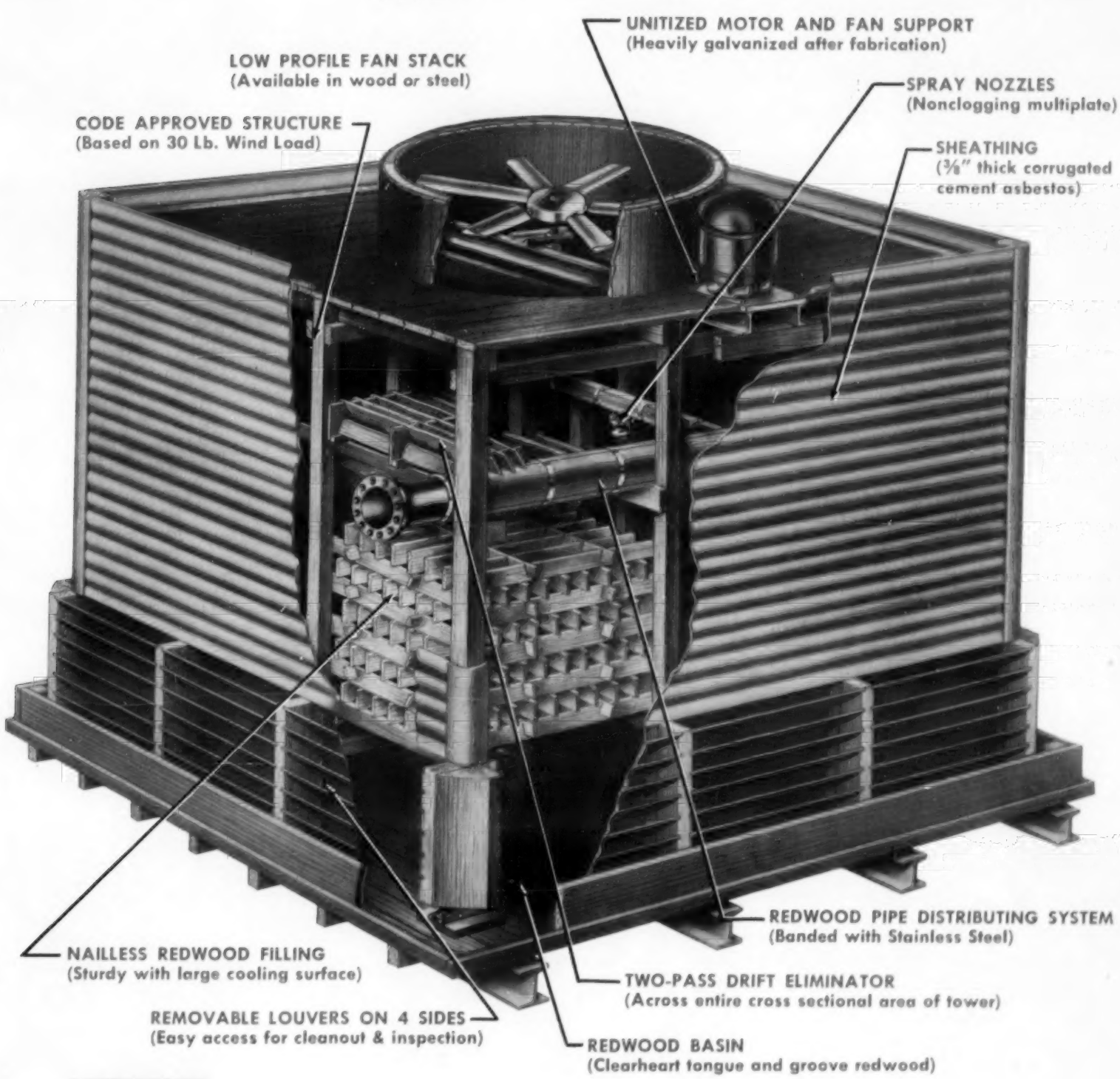
Drift eliminators are installed across the entire cross sectional area of the tower. Constructed in removable sections of heart redwood, each section consists of two layers of offset battens set at an angle to one another and firmly locked in position. *This Fluor design effects positive detrainment of water particles from the moving air without increasing pressure drop.*

air intake louvers

Louvers are located across the lower face of each side of the tower at an angle which assures smooth air flow. *Removable features permit access to tower basin from all sides—uniform appearance of all sides permits orientation consistent with architectural requirements.*

FLUOR

INDUCED DRAFT COOLING TOWERS


UNITIZED MOTOR AND FAN SUPPORT
(Heavily galvanized after fabrication)
LOW PROFILE FAN STACK
(Available in wood or steel)
SPRAY NOZZLES
(Nonclogging multiplate)
CODE APPROVED STRUCTURE
(Based on 30 Lb. Wind Load)
SHEATHING
(3/8" thick corrugated cement asbestos)
REDWOOD PIPE DISTRIBUTING SYSTEM
(Banded with Stainless Steel)
NAILLESS REDWOOD FILLING
(Sturdy with large cooling surface)
TWO-PASS DRIFT ELIMINATOR
(Across entire cross sectional area of tower)
REMOVABLE LOUVERS ON 4 SIDES
(Easy access for cleanout & inspection)
REDWOOD BASIN
(Clearheart tongue and groove redwood)

ACCESSORIES

standard accessories

1. Steel Ladder
2. Patented Fluor Vibration Cutout Switch
3. Galvanized Steel Basin Sump
4. Galvanized Steel Hardware
5. Automatic Water Control Valve
6. Sump Cleanout

optional accessories

1. Redwood Handrails
2. Steel Fan Guard
3. Nonferrous Hardware

fp INDUCED DRAFT COOLING TOWERS

The Series 3 Induced Draft Cooling Tower is offered throughout the continental United States by the Air Conditioning and Refrigeration Cooling Tower Division of Fluor Products Company, one of the world's largest manufacturers of industrial cooling towers.

Fabrication of redwood structural components is on a mass production basis at the company's 155 acre mill in Santa Rosa, California. Design, research, development and engineering is centralized at the company's general and engineering offices in Whittier and Los Angeles, California.

The Series 3 Cooling Tower meets optimum architectural, operating and performance requirements of air conditioning and refrigeration service. It represents over thirty-five years accumulated experience in the engineering, fabrication and erection of cooling towers for virtually every industry utilizing water as a cooling medium.

In keeping with Fluor's long-standing reputation for quality, performance and appearance, special emphasis has been placed on the Series 3 to make it the best cooling tower available to the Air Conditioning and Refrigeration Industry.

SERIES 3

ENGINEERING DATA

MODEL NO.	LENGTH	WIDTH	HEIGHT	PUMPING HEAD	H. P.	SHIPPING WT.
860	8′	8′	8′	8′5″	3	5540
875	12′	8′	8′	8′5″	5	7300
8125	12′	12′	8′	8′5″	7.5	7300
1060	8′	8′	10′	10′5″	3	6680
1075	12′	8′	10′	10′5″	3	8800
10100	12′	8′	10′	10′5″	5	8000
10125	12′	12′	10′	10′5″	7.5	11840
10150	12′	12′	10′	10′5″	7.5	11840
10175	16′	12′	10′	10′5″	7.5	11840
10200	16′	12′	10′	10′5″	10	14720
10300	16′	16′	10′	10′5″	15	18520

AIR CONDITIONING & REFRIGERATION COOLING TOWER DIVISION

FLUOR PRODUCTS COMPANY

A DIVISION OF THE FLUOR CORPORATION, LTD.

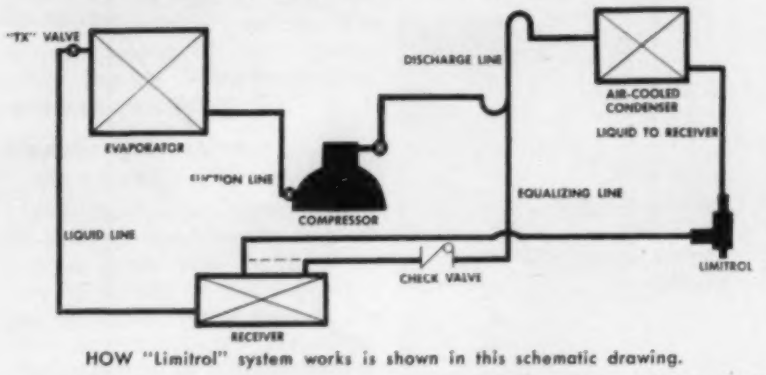
GENERAL OFFICES • WHITTIER, CALIFORNIA

BROCHURE NO. ACR-ID-0.350

PRINTED IN U.S.A.

System Maintains Proper Head Pressures In Cold Weather

'Limitrol' Said To Permit Change-Over Without Use of Hand Valves; Unit Has Simpler Piping with By-Pass, Valve Piping Done at Machine



HOW "Limitrol" system works is shown in this schematic drawing.

PITTSBURGH — Halstead & Mitchell has introduced "Limitrol," a tested system for maintaing proper head pressures in cold weather.

Developed and field tested in the extreme cold of Canadian winter, Limitrol has several advantages, the company said.

"These include change-over from summer to winter and winter to summer operation without the use of hand valves, and simpler piping because by-pass and all valve piping are done at the machine instead of on the roof," it was stated.

All Controls Set In Machine Room

"All Limitrol controls are located in the machine room. It is not necessary to climb to the roof to make adjustments.

"The Limitrol system means longer life, for it is located right in the liquid line instead of controlling high velocity hot gas. This provides longer life valve seats and closer control."

"For winter operation of an air-cooled condenser it is necessary to reduce effectively the condensing surface in the air-cooled condenser to balance in capacity the output from the compressor unit. This is accomplished by the installation of the Limitrol, a normally closed modulating valve, in the liquid line between the remote condenser and receiver," explains the company.

Low Ambient Temperature Ups Condenser Capacity

"With low ambient temperatures the condenser capacity is increased, reducing condensing temperature below the pressure necessary for proper operation of the expansion valve at the evaporator, and precluding effective operation of any hot gas defrosting system.

"The Limitrol modulating valve, therefore, remains closed until the coils in the air-cooled condenser fill with sufficient liquid to hold the condensing pressure at a fixed minimum.

"As the outside temperature rises, the condensing pressure will increase, causing the modulating valve to open and reduce the level of refrigerant liquid in the condenser coils. As the outside temperature falls, the discharge pressure also tends to fall, causing the modulating valve to close, which raises the level of the liquid refrigerant in the condenser coils.

"The effective condensing surface is reduced and the equipment balance re-established at the setting of the Limitrol.

"Limitrol valves are available for 'F-12' with a capacity up to 9 tons and a pre-setting of 110 lbs., and for 'F-22' with a capacity of 12 tons and a pre-setting of 175 lbs. At these ratings valves have only 2 lbs. pressure drop when wide open."

Conditioning, Refrigeration Distributor Sales Up 6% over '55 In First 9 Months

WASHINGTON, D. C. — Although September sales of air conditioning and commercial refrigeration equipment distributors were off 16% from August, their volume in the first nine months of the year was 6% ahead of the like 1955 period, according to Bureau of the Census figures.

The distributors' sales in September were unchanged compared with the same month of last year. Their end-of-September inventories declined 1% from August but were up 7% from Sept. 30, 1955, it was added.

September sales of distributors of electrical appliances, TV, radio sets, and electronic parts dropped 3% below the August level and 1% under a year ago. However, their sales for the first nine months of 1956 rose 5% compared with the like period of 1955.

Their inventories at the end of September were 5% higher than at the end of August and up 32% compared with Sept. 30, 1955.

The Census Bureau said that September sales of all reporting merchant wholesalers as a group dropped 7% below August but were only 1% below September sales a year ago. For the first nine months of 1956, sales were 8% higher than in the comparable period of 1955. Inventories at the end of September rose 2% above the Aug. 31 level but were up 12% above stocks on hand a year ago.

AIR-CONDITIONING MOTORS
NEVER BURN OUT
when protected with
MIGHTY MITE
MOTOR PROTECTORS
UL
MECHANICAL INDUSTRIES
PRODUCTION COMPANY
223 ASH STREET · AKRON, OHIO

General Electric
air conditioners make it
easy to do business

easy to sell...

So easy to install—no work-stoppages or serious alterations. Big jobs can be done step-by-step. *Floor models* can be installed in-space or out-of-space. *Ceiling-mounted models* need no floor space, include water-cooled and air-cooled units.

easy to finance...

General Electric offers the most attractive financing plans in the industry, including the following...

INVENTORY PLAN. Carry as many G-E units as you need on your floor or in your warehouse until July 31st—you invest only 10% of the purchase cost.

INSTALLATION PLAN. You get your equipment cost when customer signs order—and balance of selling price after installation is completed. Your working capital goes further—your credit remains good—and you pay no interest charge.

FOUR CUSTOMER-PAYMENT PLANS. 1. Easy Payment Plan for customers low on cash. 2. Skip-Payment Plan for more pre-season sales. 3. Pay-As-You-Profit Plan with payments during hot months when G-E units are in use. 4. Earned Depreciation Plan with longer, more flexible terms for large installations.

easy to service...

In fact, no service at all on cooling system. Motor, compressor and condenser are sealed by flame to keep dirt and moisture out, vital refrigerant and oil in. Entire refrigeration system is covered by General Electric's unsurpassed 5-year warranty. Call your G-E Packaged Air Conditioner Distributor for full story of a G-E Dealership, or write: C. J. Rigby, General Electric Company, Commercial & Industrial Air Conditioning Dept., 5 Lawrence St., Bloomfield, N. J.

packaged AIR CONDITIONERS

Progress Is Our Most Important Product

GENERAL ELECTRIC

Expert Explains Relation of Fixed, Variable Costs to Break Even Point

NEW ORLEANS—There are a number of factors in the consideration of accounts receivable turnover, merchandise turnover, and determination of the "break-even" point, which should be taken into account to develop more efficient and profitable operation, related Dr. Paul C. Taylor, Tulane University School of Business Administration, in speaking before the recent meeting of the Air Conditioning and Refrigeration Wholesalers.

Dr. Taylor spoke on "Costs and Your Break Even Point."

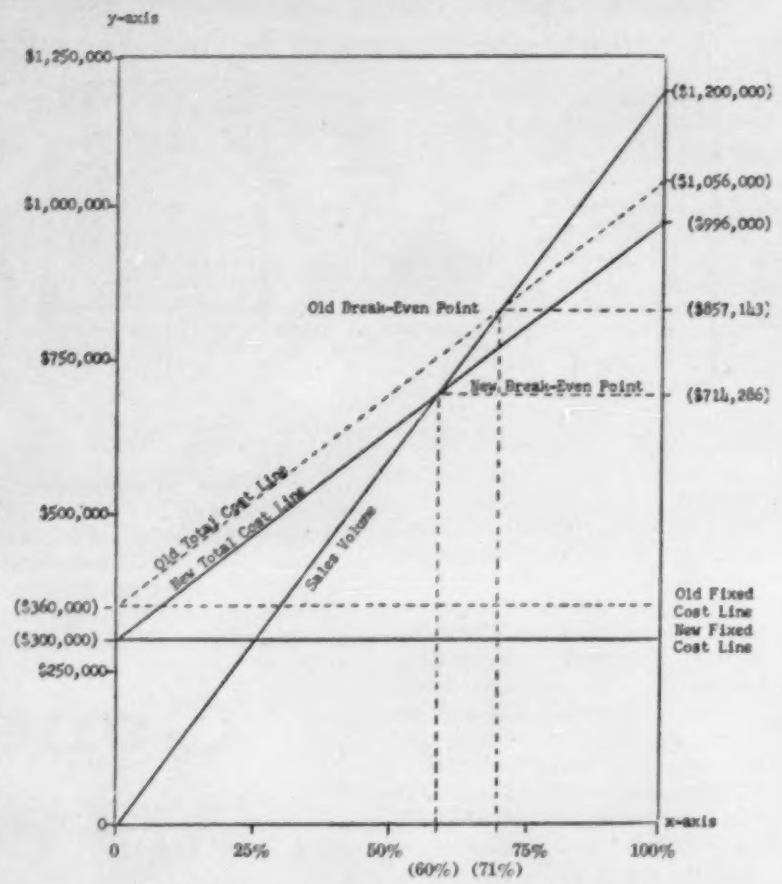
It is a good practice not to tie up too much of a company's assets in accounts receivables, Dr. Taylor declared. One way to keep track of this factor is to determine the rate or trend in accounts receivable turnover.

This can be done by dividing the net sales for the year by the average receivables (see Table 1). Through experience it is possible to establish a "norm" from this figure, and variations from the norm will indicate any problems that might arise.

The aim in receivables control is to reduce the time of receivables outstanding before collection.

One check on this is to determine the "number of days' sales in receivables." (See Table

(Concluded on next page)



BREAK-EVEN CHART showing result of change of fixed costs.

KLIXON

CIRCUIT BREAKERS HELP LUNCH-O-MAT Make Sales

View of the LUNCH-O-MAT control system showing the application of five KLIXON C6363 Circuit Breakers.

The LUNCH-O-MAT offers in a single dispensing unit a wide selection of food and drink items previously only available through the use of several vending machines.

Hot sandwiches are heated quickly on demand by Radar, and coffee, fruit juices, milk, soft drinks and pastries are also dispensed by Eastern Electric's new LUNCH-O-MAT. And, says Eastern Electric, designers and manufacturers of coin-operated merchandise machines for over 10 years, "An out-of-order machine can't make a sale."

To help keep its "automatic LUNCH-O-MAT cafeterias" in operation, Eastern Electric uses KLIXON Circuit Breakers in the electrical control system. Here's what George R. Wightman, of the Engineering Division of Eastern Electric, has to say about KLIXON Circuit Breakers:

"Our experience has shown that these machines must take above-normal abuse and therefore must be of rugged design; and furthermore must contain every possible safeguard to prevent 'out-of-orders.' You see, an out-of-order machine isn't able to make a sale. These are the reasons our engineers choose KLIXON Circuit Breakers for our new LUNCH-O-MAT."

KLIXON Circuit Breakers are successfully meeting hundreds of requirements for circuit protection in a wide variety of civilian and military applications. They are available in hermetically sealed and open types with a wide choice of ratings to meet your needs.

KLIXON

Metals & Controls Corporation

SPENCER THERMOSTAT DIVISION

2411 FOREST STREET, ATTLEBORO, MASSACHUSETTS

No. 7 in a series on refrigeration

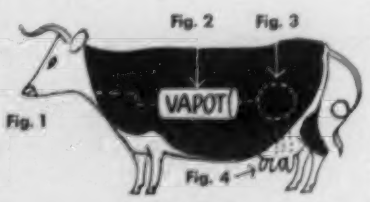


DIAGRAM A

THE diagram above (A) represents the basic operational principle of a mature female of the genus **Bos.** And, no bull, here is a job of engineering that sets a high standard of production and processing efficiency.

When set in motion The Cow (as it is known in the trade) takes in basic raw components (mainly fodder) at a point indicated by Fig. 1 in the diagram. The fodder, which should be radish free, is ground and conveyed to a transformer which transforms it into a base liquid. After processing the liquid is broken down into four end products known as (1) milk, (2) cream, (3) buttermilk, and (4) chocolate milk—all four of which are delivered by means of extrusion through four outlets indicated by Fig. 4, naturally, in Diagram A above.

Although basically simple in design The Cow does apply one certain working part (an essential one indeed) the name of which escapes us at the moment but this certain essential part corresponds to what is known as **VAPOT** in refrigeration and cooling installations.

If you design, install, finance or use industrial refrigeration you should permit yourself to become informed re: **VAPOT.**

In round numbers **VAPOT** gets rid of frost suddenly and at the right instant. **VAPOT** controls frost on coils inexpensively, automatically, positively. **VAPOT** works with cowlike smoothness. The basic technical data on **VAPOT** is something you should have. It is yours gratis of course.

RECOLD
SINCE 1932

REFRIGERATION ENGINEERING, INC.
7250 E. Slauson Ave., Los Angeles 22, Calif.
Phone: RAymond 3-3281

Table 1—Accounts Receivable Turnover

	1955	1956
Net Sales	$1,650,000	$1,425,000
Net Receivables		
Beginning of year	333,500	375,000
End of year	375,000	420,000
Average Receivables	354,250	397,500
Receivables Turnover within year	4.7	3.6

Table 2—Number of Days Sales In Receivables

	1955	1956
Average Receivables	$ 354,250	$ 397,500
Net Sales	1,650,000	1,425,000
Average Daily Sales (Net Sales ÷ 300)	5,500	4,750
Number of days' sales in average receivables	64	54

Table 3—Merchandise Turnover

	1955	1956
Cost of Goods Sold	$1,200,000	$1,000,000
Merchandise Inventory		
Beginning of year	125,000	330,000
End of year	330,000	225,000
Average Merchandise Inventory	227,500	277,500
Merchandise Turnover for the year	5.3	3.6

Table 4—Number of Day's Sales In Inventories

	1955	1956
Merchandise Turnover for the year	5.3	3.6
Number of days' sales in average inventory (assuming a business year of 300 days)	57	83

Table 5

	Product A	Product B
Selling Price	$1.00	$1.50
Total Cost	.70	1.25
Profit	$ .30	$ .25

Table 6

		Product A		Product B
Selling Price		$1.00		$1.50
Variable Cost	$.30		$.50	
Fixed Cost	.40		.75	
Total Cost		.70		1.25
		$ .30		$ .25

Table 7

	Product A	Product B
Selling Price	$1.00	$1.50
Less Variable Costs	.30	.50
Marginal Income	$ .70	$1.00
Less Fixed Costs	.40	.75
Profit	$ .30	$ .25

For more information about products advertised on this page use Information Center, page 16.

Break Even Point--

(Concluded from preceding page)

2). This is done by determining the average daily sales total, and dividing the accounts receivable by that figure. The lesser number of days' receivables means less receivables, and less cost per day.

How To Determine Merchandise Turnover

Merchandise turnover (Table 3) is determined by dividing the cost of goods sold by the average inventory. A low inventory figure may be generally, but not always necessarily desirable. For example, a high inventory could be desirable if it represented a stock of goods purchased at prices lower than those presently prevailing. It is always desirable to analyze inventories by departments or types of items, to get the true pictures, stated Dr. Taylor.

Generally, the lower the number of days' sales in average inventory (Table 4) the better the state of the business, for it indicates a greater rate of merchandise turnover for the year.

Rule of Thumb Lower the Fixed Cost

In looking at the factors that must be considered in determining the break-even point (and thus the way to profit), a general rule of thumb is to push the item with the biggest margin of profit, where the factor of total sales potential in the two items isn't too different (see Table 5).

However, it is always important to break down the total cost of the item into fixed costs and variable costs (Table 6) for a number of considerations.

One of the most important of these considerations is illustrated in Table 7. This shows how Product "B" contributes much more to meeting fixed costs than Product "A" ($1 per item against 70 cents) even though its actual profit per item is less.

Lower Sales Volume Needed To Show Profit

The "Break-Even Chart" (Fig. 1) shows very simply the value of keeping fixed costs as low as possible. The lower the figure at which fixed costs can be held, the lower the sales volume that is needed to start to show a profit, and profits grow faster and bigger once the break-even point has been reached.

The trend to mechanization, said Dr. Taylor, is being heavily emphasized to reduce variable costs, primarily in labor. However, it is possible for this trend to get out of hand in individual instances, putting the fixed costs so high that it may prove difficult to push the sales volume to the higher break-even point required.

Las Vegas Sales Rodeo

Westinghouse Cooling Dealers Reap Rewards on Desert Inn Outing

JOINING the Westinghouse party with a ticket from her son-in-law, owner of Alwin Electric Co., New Ulm, Minn. outlet, was Mrs. Harry Nuenfeldt of St. Paul.

AWAITING his turn on the golf links, dealer E. E. Eddins of Hillencamp Engineering Co., Jacksonville, Texas, tries out his swing on the Desert Inn lawn. Top Westinghouse air conditioning department officials joined the trip-winning distributors and dealers.

LARGEST contingent to join the Las Vegas Sales Rodeo party was this group from Birmingham, Ala. Seated l. to r. are Charles Smith, Anna LaRochelle, and B. M. Cameron of Flint Refrigeration Co., distributor. Rear are I. I. Adams, dealer, of Tuscaloosa, Ala., and D. Frank Haynes, owner, Commercial Refrigeration Co., Anniston, Ala. Other members of the Flint organization are J. A. Wingo and Rance Hardy with camera.

The Chicago Mill engineered and laboratory-tested container, designed specifically for air conditioners, is shown in use at the Mitchell Manufacturing Company plant.

here's the most practical container for shipping air conditioners!

In order to meet the requirements of the growing air conditioning industry, Chicago Mill had its engineers design the best possible container for the protection and shipment of air conditioners. The hinged corner plywood container that was developed offers these advantages:

75TH YEAR

- Maximum protection
- Low cost
- Fast assembly
- You can stack them 20 high for compact storage with a good factor of safety

Contact your Chicago Mill representative for complete information.

A shipping container for every shipping purpose

Wirebound
Nailed or Hinge Corner
Cleated Plywood
Cleated Craveneer
Cleated Corrugated
Watkins Type Containers
Shop and Tote Boxes
Woodsteel Nesting Boxes

★

FOR DOMESTIC OR EXPORT FOR PEACE OR DEFENSE

FOR SAFER TRANSIT BY • TRUCK • BOAT • TRAIN • PLANE

CHICAGO MILL AND LUMBER COMPANY

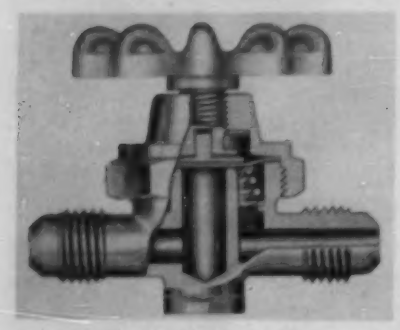
33 South Clark Street — Chicago 3, Illinois

Plants at Helena, Arkansas • Greenville, Mississippi • Rockmart, Georgia
Tallulah, Louisiana • South Fork, Colorado • Chicago, Illinois

MARSH Instruments

THE SERVICEMAN LINE of Testing Gauges, Testing Thermometers, Timers, etc.
PRESSURE GAUGES and Dial Thermometers for all services.
MARSH-ELECTRIMATIC, Water Regulating Valves, Solenoid Valves.
MARSH INSTRUMENT COMPANY
Sales Affiliate of Jas. P. Marsh Corporation
Dept. D, Skokie, Ill.

Packless Valve Permits Unrestricted Flow



——KEY NO. F-1140——

MELROSE PARK, Ill.—A new small compact diaphragm packless valve engineered for unrestricted flow has been announced by Henry Valve Co. here.

The new valve, known as type 515 with flare connections and type 516 with o.d.s. connections, is recommended for refrigeration service, charging boards, gauge shut-off valves, and vacuum applications; also for the control of various industrial fluids, which are hazardous and expensive, and for other applications requiring small valves.

They are available in ¼ in. through ⅝ in. flare and o.d.s. sizes, and can also be furnished with other types of end connections.

Other features of design include: light weight, forged brass body with integral mounting flange, full capacity ports with inlet and outlet ports-in-line, non-rotating floating bearing plate, teflon diaphragm, stainless steel spring, and hexagonal wrench grip on valve bonnet, the company said.

Shell Combustion Head Oil Burner Developed

——KEY NO. F-1141——

NEW YORK CITY—A new "highly efficient" and economical shell combustion head oil burner—designated "Arcoflame" model ES-2—has been introduced by the Plumbing & Heating Div. of American-Standard.

ES-2 shell head burns No. 1 and No. 2 fuel oils cleanly and completely, the firm points out. When properly adjusted it creates no soot, smoke, or fumes. The new burner has an oil capacity range of .70 to 1.50 g.p.h.

Controls permit precision adjustments to be made while the ES-2 is running.

Standardized replacement parts, including pump, transformer, fan, and motor, make possible quick, easy servicing, it was noted. Air tube lengths of 6¾, 8, 15, and 23 in. are available to meet any installation requirement.

Compact design and lightweight steel construction permit easy handling and fast installation. Pedestal, flange, or hanger mountings adapt the burner to all uses.

Ammonia Unit Has Hot Gas Defrost Pan

——KEY NO. F-1142——

LOS ANGELES—A new Recold ammonia unit with hot gas defrost pan has been announced by the manufacturer, Refrigeration Engineering, Inc. here.

The unit was designed to meet requests recently received for ammonia ceiling units where hot gas defrost is required.

With a defrost coil on the pan, a low temperature ammonia unit is available for either flooded or direct expansion operation. The pan, defrost coil, cooling coil of steel fins and steel tubes are all hot dipped galvanized.

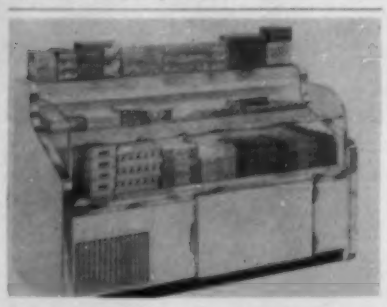
Over-Floor Duct Protects Wiring

——KEY NO. F-1143——

LARAMIE, Wyo.—A new over-the-floor duct for protection of electric wiring, or small tubing carrying gases or liquids was recently made available here by Ideas, Inc. associated with CMG Industries, Inc.

Made of rubber the duct is said to be stumble-proof and unobstructive. It is 2¾ in wide at base, rising to an apex of 7/16 in. Ribs on the under side prevent slipping, the firm said.

Wiring or tubing when placed in the hollow duct center is fully surrounded by rubber. Made as an electrical extension cord called "Electriduct" the unit has a two-way receptacle at one end and a cord and plug at the other. This is available in standard 4, 5, 6, and 10-ft. lengths.



Introduces Smoked Meat, Dairy Merchandiser

——KEY NO. F-1148——

CINCINNATI—C. Schmidt Co. here recently introduced an improved merchandising case for smoked meats and dairy products.

There is an 11-cu. ft. storage compartment with a 17 by 30-in. door opening in the 76-in. long, 34-in. wide, 49-in. high case which has two refrigerated shelves.

Front glass is hermetically sealed and a ½-hp. condensing unit with five-year warranty is installed at the factory.

Offers Heating, Cooling Blower, Wheel Series

——KEY NO. F-1145——

TORRINGTON, Conn.—A new series of assembled blowers and large blower wheels was recently developed here by Torrington Mfg. Co. for residential air conditioning and warm air heating use.

Available in six sizes for both belt and direct drive, the newly designed blower units will include the Torrington "Center-Lock" wheel which is claimed to provide quiet operation and maximum air delivery.

Wheels come in 9½-in. diameter (7½ and 9½-in. wide), 10⅝-in. diameter (8 and 10⅝-in. wide), and 12⅝-in. diameter (9½ and 12⅝-in. wide), the manufacturer reported.

Counterflow Furnace Saves Vertical Space

——KEY NO. F-1144——

CHICAGO—A new counterflow furnace was recently introduced here by the Plumbing & Heating Div., Rheem Mfg. Co.

This new furnace is said to conserve about 13 in. of vertical space to make for easier installation. Heat exchangers have been re-engineered and the unit is equipped with milled slot burners, cross-slot ignition from one pilot light and high capacity blower, and a built-in vent pipe with draft diverted, the company further stated.

Five sizes of the unit have B.t.u. input of 80,000 to 160,000, it was said.

Designs High-Velocity Under-Window Unit

——KEY NO. F-1146——

ROCKFORD, Ill.—A new high-velocity under-window unit was recently made available by Barber-Colman Co. here.

Designed for installation under windows or on any wall surface, the unit is said to be a practical means of air distribution where space requirements necessitate high velocity air to be delivered to individual diffusers.

"Uni-Flo" adjustable grille used on the model CM unit assures rapid diffusion and draft-free distribution of conditioned air, the company stated.

To prevent the grille from being covered by objects that would halt proper air distribution, the front of the cabinet is sloped.

Coating 'Performs Like Porcelain'

——KEY NO. F-1147——

PITTSBURGH—A new type of coating which looks and performs more like porcelain than any other known organic finish was recently developed by Pittsburgh Plate Glass Co.

It is particularly adapted to finishing refrigerators, air conditioning equipment, and home laundry equipment, according to the manufacturer.

To be known as "Duracron," the family of coatings is based on a new series of thermosetting acrylic resins to make a "basically new" chemical composition, the company added.

For many applications the product is said to offer in one coat the same protection and perfection of finish as present two-coat finishing systems provide.

Information Center

For *more information* on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

Products Advertised
(list name, page, and issue date)

.....
.....
.....
.....

What's New or Current Literature Available

Key No. ..... Key No. .....
Key No. ..... Key No. .....
Key No. ..... Key No. .....
Key No. ..... Key No. .....
Key No. ..... Key No. .....

Name ..... Title .....
(Please Print)
Company .....
Street .....
City..... Zone..... State.....
Type of Business .....

MAIL THIS FORM TO
AIR CONDITIONING & REFRIGERATION NEWS
Readers Service Dept.
450 W. FORT ST. DETROIT 26, MICHIGAN

AUTO-LITE
TEMPERATURE RECORDING...
Newly designed, Model "1000" Auto-Lite Recorder gives permanent proof of temperature behavior. • 6" clear reading chart; various standard ranges from minus 40°F. to plus 550°F. • 3 standard types; choice of 24-hr. or 7-day cycle. • Electric or mechanical chart drive. • With capillary tubing for remote reading. Priced from $49.50.
Send for new catalog describing many styles of Auto-Lite temperature Recorders and Indicators.
Model "1000"
THE ELECTRIC AUTO-LITE COMPANY
INSTRUMENT AND GAUGE DIVISION
TOLEDO 1, OHIO
NEW YORK • CHICAGO • SARNIA, ONTARIO
TEMPERATURE RECORDERS

For more information about products advertised on this page use Information Center, page 16.

What Was New

At the Dairy Show In Atlantic City

Products on this and the following page were shown at the recent 20th Dairy Industry Exposition in Atlantic City, N. J. Other pictures appeared in the Nov. 12 and 19 issues of the NEWS. For more data on the items please use the "Information Center" blank on page 16 and refer to the Key Number which accompanies each picture.

—KEY NO. F-1149—

LEFT: Forced air circulation through three refrigerated compartments at rear of milk tank truck is exclusive feature shown by Walker Stainless Equipment Co. John Karasch, Walker sales correspondent (l.) points out the refrigerated air ducts in the ceiling of the compartments to W. G. Wood, of Maplewood Dairy, Fair Haven, Vt., who bought this truck. Big advantage is to keep hose under positive refrigeration so that any milk in it will not deteriorate, says Karasch.

—KEY NO. F-11412—

"QUIKOLD" cooler for packaged and bottled milk features transparent plastic lid and display rack superstructure, E. H. Ohler, factory manager of S. & S. Products, Inc. explains to John C. Taber of New York City. It holds six cases of milk.

—KEY NO. F-11414—

LEFT: A good humored audience watches Howard Fern (r.), district sales manager for Carbonic Dispensers, Inc., demonstrate the new "Midget Sodamaster" beverage dispenser. They are James Patterson (l.), H. O. Cestari, and Mario Cestari, all of Good Humor Corp.

—KEY NO. F-11415—

RIGHT: Endless design ice cream display case for supermarkets is offered by Weber Showcase & Fixture Co. B. E. Meier (l.), Weber's manager of the ice cream cabinet division, shows the Blizzard 161 model to W. E. Thomason, Houston dairyman, and R. C. Thibaut, Weber district representative in Dallas.

—KEY NO. F-11413—

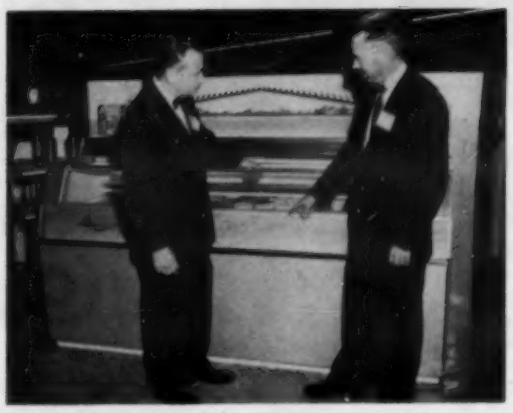
FIBERGLAS REINFORCED plastic truck body for refrigerated delivery service was displayed by Montpelier Mfg. Co. Plastic inside and out makes for less weight, the company claims.

—KEY NO. F-11410—

RIGHT: Grouped around the new model 77 "Super Shake" that has a capacity of 360 shakes an hour are Charles Ericson (l.), president of Port Morris Machine & Tool Works, Mrs. Robert Arta, and Charles M. Nasif, ElectroFreeze distributor in N. Attleboro, Mass.

—KEY NO. F-11416—

LEFT: Sharp freeze systems custom built by the King Co. are described for C. H. Denny, Indianapolis dairyman (l.) by Frank Kennon, King engineer.



—KEY NO. F-11411—

LEFT: Perforated grille for air intake on the front of the case is feature of new larger ice cream cabinet exhibited by Anheuser-Busch, Inc. Looking over the 18-cu. ft., 7-ft. long case are Jim Phelan (l.) of Pennco Sales and Chuck Bertram of A. E. Hutson Associates, Cleveland.

SO HALSTEAD & MITCHELL ENGINEERS SAID:

"LET'S STOP COOLING TOWER RUSTING and ROTTING!"

RUSTING

There's no "one-coat" protection which will stop cooling tower rust. Needed are super-strength bonding of protection to metal, toughness, inertness, flexibility, and a water-tight barrier. Only by Halstead & Mitchell are you offered the 3-coat protection of Vinsynite, Vinyl Zinc and chlorinated rubber — the most advanced protection ever devised to prevent cooling tower steel from rusting.

ROTTING

We do more than praise the long life of wood used in our wetted decks —we are the *only* manufacturer who offers a 20-Year Guarantee on wetted deck wood against rotting or attack by fungus.

Halstead & Mitchell

BESSEMER BUILDING, PITTSBURGH 22, PA.

AT LEADING WHOLESALERS EVERYWHERE

There's nothing like high reserve capacity!

PA® 400 has the highest capacity for moisture adsorption under the most adverse conditions in refrigerator operation . . . higher than any other desiccant. This reserve capacity is a safety factor. PA 400 keeps the refrigerator running even though there is sufficient moisture in the system to completely "saturate" other desiccants.

No other refrigeration desiccant gives you as much as PA 400 . . .

- Highest capacity
- Minimum pressure drop
- Physical adsorption not chemical action
- Non-dusting
- Adsorbs acids
- Dries refrigerants to below 2ppm at 120° F.
- Non-deliquescent
- Does not channel

Progress Through Chemistry

DAVISON CHEMICAL COMPANY

Division of W. R. Grace & Co.

Baltimore 3, Maryland

Producers of: Catalysts, Inorganic Acids, Triple Superphosphates, Superphosphates, Phosphate Rock, Silica Gels and Silicofluorides. Sole Producers of DAVCO® Granulated Fertilizers.

What Was New

At the Dairy Show In Atlantic City

Products on these two pages were shown at the recent 20th Dairy Industry Exposition in Atlantic City, N. J. Other pictures appeared in the Nov. 12 and 19 issues of the NEWS. For more data on the items please use the "Information Center" blank on page 16 and refer to the Key Number which accompanies each picture.

—KEY NO. F-11417—
LEFT: Designed for supermarkets is Schaefer, Inc.'s new 8-ft. long ice cream merchandising cabinet. Jack Gildersleeve (l.) Schaefer sales representative points out to N. D. Harris of the Borden Co. that it has 20-cu. ft. capacity and features automatic defrosting.

—KEY NO. F-11418—
RIGHT: Wall of ice protects milk in Esco Cabinet Co.'s new 485-gal. capacity bulk milk cooler with air-cooled refrigeration unit explains Harold Cann, sales manager for Esco.

—KEY NO. F-11419—
LEFT: Showing colors available with the Savage "Big Stop" ice cream merchandiser is John Lowry, (r.) Savage sales representative. H. B. Thomas of Southern Dairies looks on.

—KEY NO. F-11420—
RIGHT: Open, glassless front designed to step up sales is feature of 21.2-cu. ft. dairy case exhibited by Mohawk Cabinet Co., Inc. Jesse Kaiser, Mohawk district manager in Atlanta, tells H. F. Luecke of Southern Dairies about the 5-ft. long case.

———KEY NO. F-11421———
ONLY 25½ in. deep, this soda fountain is one unit in a complete new line of equipment made in that dimension by Phenix Soda Fountain Co., Marvin Weisberg, president of Phenix tells Mrs. L. A. Gruenewald.

———KEY NO. F-11422———
HOW THE "SANI-AIR" accessory cools the room by using the refrigeration unit of a "Sani-Serv" ice cream freezer during the freezer's off-cycle is explained to L. J. Kanter (l.) of the Dairy Bar, Cleveland, by Robert E. Wildman, sales manager of General Equipment Mfg. Corp.

———KEY NO. F-11423———
NEW ROWE OUTDOOR mechanical milkman sells ½-gal. cartons as well as half-pints, pints, and quarts, Forrest M. Wales (l.), Long Island dairyman hears from Jack Hopson, assistant to the vice president of sales for Rowe Mfg. Co., Inc.

———KEY NO. F-11424———
COMBINED CHECK OUT COUNTER and ice cream merchandiser for the small store is shown by Emmett Bales (l.), engineer for the C. Nelson Mfg. Co. to Sidney Karr, Mann Refrigeration Supply, New York City

———KEY NO. F-11425———
DARIOMATIC 505, claimed to be the only dairy vending machine to dispense four different sized items is demonstrated by Walter Rodman, (l.) N. Y. district manager for Dariomatic, Inc., and Charles M. Pine, general sales manager.

———KEY NO. F-11426———
NORRIS DISPENSERS, INC. has only home milk bar with a ¾-cu. ft. compartment for butter, cream, and other dairy products, John Strom (l.), Norris sales representative, shows Gordon T. Mercer, Gouverneur, N. Y. dairyman.

———KEY NO. F-11427———
PUSHING AROUND the Fischman Co.'s new spot ice cream merchandiser on wheels is Floyd Williams, Fischman sales manager.

———KEY NO. F-11428———
THEATER ICE CREAM MERCHANDISER for the merchandising of ice cream novelties in theater lobbies catches the attention of Mr. and Mrs. Sam Karasic of the Carnival Bar Ice Cream Corp. Lee Saettele, (l.) eastern sales director of Bally Case & Cooler Co. explains that removing the front glass makes it self-service in 30 seconds.

———KEY NO. F-11429———
PHILLIPS LIQUID RETURN SYSTEM for "Freon" or ammonia compressors is examined by W. V. Richards, (l) chief engineer of H. A. Phillips & Co. and Ben H. Walcott of Binks, Inc.

———KEY NO. F-11430———
"VAP-R-TYT," the application of metal with locked and soldered seams with all penetrating bolts sealed for low temperature storage doors, was introduced at the Dairy Show by Jamison Cold Storage Door Co. M. M. Crisman (l.), Jamison district manager, tells J. G. Dunville of Richmond, Va. about it.

———KEY NO. F-11431———
TAKING QUART of milk from the Vendo Co.'s new quart-size self-service outdoor vending machine is Margie Wiley, Vendo's hostess at the Dairy Exposition.

When your problem is...
SIZE...SHAPE or METAL
your answer is
DEAN
COLD PLATES
"Job Tailored" to your specifications
A baffling problem? Try a Dean Cold Plate made expressly to suit your particular requirements. Made in a variety of metals in cylinders, U's, angles, tanks, etc.
Many shapes
Many sizes
Many metals
DEAN PRODUCTS, INC. 1042 Dean St. STerling 9-3400 Brooklyn 38, N.Y.

A-B Quality

DEPENDABLE

Pressure and Temperature Controls for Air Conditioning & Refrigeration

Bulletin 836-837 controls are accurate, compact units which handle a wide range of pressure and temperature applications. The Allen-Bradley precision switch has no "dead center" and no bearings to cause delay . . . it is "positive" in action. The pure silver contacts are good for millions of trouble free operations. For detailed information, write for Bulletin 836-837.

Allen-Bradley Co., 1313 S. First St., Milwaukee 4, Wis.
In Canada—Allen-Bradley Canada Ltd., Galt, Ont.

The Sign of QUALITY MOTOR CONTROL

ALLEN-BRADLEY
SOLENOID MOTOR CONTROL
QUALITY

McIntire Names Wachholtz Southwest Representative

LIVINGSTON, N. J. — The McIntire Co. announces the appointment of Charles Wachholtz as its representative in the southwest, handling the complete line of DFN refrigeration driers, filters, strainers, and accessories.

He will maintain headquarters at 10029 Lake Garden Dr., Dallas, Texas, and cover Texas, Oklahoma, Arkansas, New Mexico, and the western portion of Louisiana.

Wachholtz has spent the past 11 years with refrigeration wholesalers.

Firm Opens New Offices

PITTSBURGH — Emerson-Pittsburgh Co., local air conditioning, television, and radio distributor, held open house at its new offices at 568 S. Aiken Ave. here recently.

Refrigerant Piping

This is the second part of the third article in a series by Mr. Lindsley covering some fundamentals in the installation, service, and maintenance of refrigeration and air conditioning systems.

Much of the material is concerned with proper practices in such important activities as maintenance of water-saving devices, start up and check out of systems, correct refrigerant piping practices, and "know-how" in servicing residential air conditioning systems.

The author of the articles has had many years of experience in directing refrigeration service operations, and in instruction on service problems.

By E. D. Lindsley, Mgr. of Technical Section, Air Conditioning & Refrigeration Service Div., Worthington Corp., Ampere, N. J.

(Continued)

CONDENSING UNIT ABOVE EVAPORATOR

When it is necessary to install the condensing unit above the evaporator, the suction risers should not be over 25 or 30 ft. high if possible. Where suction risers are over 30 ft. high, traps should be installed to collect the oil and refrigerant remaining in the suction line when the compressor stops.

Care should be taken when piping the branch suction line from the coil to be certain the line is properly trapped as shown in Fig. 8.

SUCTION GAS VELOCITY

When compressors are operated at higher speeds, proper oil return must be maintained at all times. This becomes a problem when cylinder unloading is used, because of the reduced velocity in the suction line and risers.

On some systems during the operation cycle the reduction of capacity may be as much as 25% of full load, thus reducing the velocity of the suction gas below the required velocity needed to entrain and return sufficient oil to the compressor at all times.

A matter of minutes without sufficient oil on the higher speed, compressors of this type will damage bearings quickly, therefore all bearings must have full lubrication at all times.

To provide for oil return during the reduced capacity period, the suction risers should be sized to maintain a velocity of 1,500 f.p.m. In designing the system it may not be possible to maintain this velocity on the last step of unloading in the suction risers from the coils, a double or two-pipe riser can be used.

When using this type of riser the two pipes should be sized with a capacity of 1,500 f.p.m. for full compressor load, and the smaller pipe sized for or to maintain the 1,500 f.p.m. with the compressor operating at its minimum capacity.

Fig. 9 illustrates the suggested piping of coils with a trap, using the two pipe riser. A tee is installed in the suction line below the outlet of the coil or coils, with the side outlet in the upward position.

The tee should be the same size as the suction line from the coils, and reduced or use a tee with a branch opening which is the same size as the selected small pipe riser.

On the leaving or straight side of the tee make a trap as short as fittings will permit. This can be made with two 45° street ells and one 90° street ell. Both risers should be run up high enough to enter the main suction in the top, thus preventing the draining of refrigerant from one riser into another.

The main suction line should be pitched toward the compressor, about one inch to every 20 ft. This is a good practice to follow on all suction lines.

With this two-pipe riser, when the compressor is operating under full load, both pipes will main 1,500 f.p.m. velocity. As the compressor unloads, oil in the suction gas will separate with the reduced velocity and seal the trap, causing the suction gas to pass up the smaller pipe with the 1,500 f.p.m. gas velocity.

When the compressor capacity is increased the trap seal will be broken and the suction gas passing over the oil in the trap will gradually pick it up and return it to the compressor.

For selection of the proper pipe sizes for systems to maintain proper velocity to return oil to the compressor, refer to data provided by manufacturer.

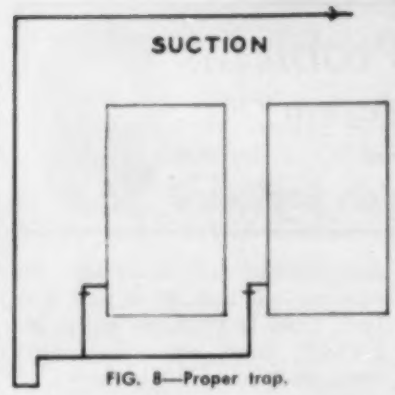


FIG. 8—Proper trap.

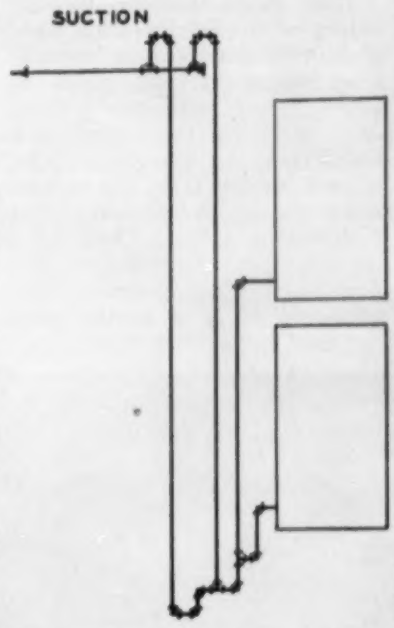


FIG. 9—Double suction riser with a trap used to maintain proper gas velocity at reduced compressor capacities.

Square D Electrical Unit Sales Seen To Hit $100 Million

LOS ANGELES — Annual sales of Square D Co., manufacturer of electrical distribution and control equipment, will reach the $100 million mark for the first time in 1956, Gordon Patterson, president, reported to the Los Angeles Society of Security Analysts here.

In 1955, Square D attained sales of $78,726,607, a new high.

Patterson told the analysts that in anticipation of further "substantial growth" and to insure adequate working capital "for all presently foreseeable needs," a long-term bank credit agreement for $10 million has been arranged. He said that Square D will not require any of these funds this year.

Wilson To Add Bldg.

SMYRNA, Del.—Officials of Wilson Refrigeration, Inc. here recently announced a small building expansion program will be started shortly.

The new building will add about 10,000 sq. ft. to bring the total area to 110,000 sq. ft.

...designed for Flexibility

This new break-away type spud valve is engineered for compressors used for remote air cooled residential systems. It has a new built-in mechanical rotating connector that allows the valve to be rotated a full 360°. This new feature permits the valve to be placed in a direct line with suction or discharge tubing for easier, more efficient connection . . . permits instant compressor replacement in the field. Available in all standard sizes.

New Rotalock Valve also available with mounting bracket as shown.

Write for FREE Catalog giving pertinent data and details.

Primore Sales, inc.,
310 National Bank Building
Adrian, Michigan
REFRIGERATION:
Sales • Designing • Engineering

SIGHT GLASSES
for Air Conditioner Refrigerant Systems

Quick visual checks on refrigerant can be made with Pyrex sight glass installed on the liquid line. Shows under or over charging, speeds servicing. Write Glass Division.

SWIFT
Lubricator Company, Inc.
1 Glass St., Elmira, N.Y.

AIR CONDITIONING SALES ENGINEER

Large Chicago Contractor, York Distributor, will fill two openings in their sales department. Openings due to promotions. Men 25-40 who have proven sales ability in Commercial and Industrial Refrigeration and Air Conditioning. Engineering education desirable. Profit Sharing, Florida Vacations and other benefits.

See Mr. Baker at Murphy & Miller, Inc.
1326 South Michigan Avenue, Chicago
Telephone HArrison 7-8900

Business and Technical WRITER

wanted who has knowledge of heating methods and experience in the heating industry. This is an attractive long-range opportunity with top firm in its field. Send resume to BOX A5665, Air Conditioning & Refrigeration News.

Edwards
CO-AXIAL CONDENSERS

A TYPICAL CONFIGURATION—EFFICIENT, COMPACT DESIGN

The NEWEST design in water-cooled refrigerant condensers. Used by major equipment manufacturers because of these—

SELLING ADVANTAGES:

- Use 35% less water
- Cost reduced 30 to 40%
- Stock sizes: ½ to 7½ tons
- No internal joints
- Easy installation
- Many compact shapes

Send for catalog TT-652 TODAY or call TERHUNE 5-2808

EDWARDS ENGINEERING CORP.
100 ALEXANDER AVENUE • POMPTON PLAINS, NEW JERSEY

Refrigeration Problems
And Their Solution

By Paul Reed

For Service and Installation Engineers

Compressor vs. Vacuum Pump for Evacuating System-2

(Continued)

It was poor practice even with open-type compressors; it is much worse practice with hermetic motor-compressors to use a new, clean refrigeration compressor to evacuate a new installation.

But there is another reason for not using the refrigeration compressor for drawing the original vacuum on a new system, that is perhaps more important than any that have been mentioned up to now.

This point relates to the ability of the refrigeration compressor to draw a deep vacuum. Used as a vacuum pump to evacuate air from the system, that is, with the compressor discharging to the atmosphere, a good refrigeration compressor can pull down to a 29-in. vacuum or perhaps below. Used as a refrigeration compressor and pumping against a normal head pressure, it is a pretty good compressor that will pull down to a 28-in. vacuum.

Thus, if using the hermetic motor-compressor on a deep vacuum is likely to cause electric insulation damage, the hazard is greater if the hermetic motor-compressor is used to evacuate the system originally than if it were later used on a regular low temperature system involving a low vacuum, or in a service pump-down operation.

MOTOR-COMPRESSOR IS NOT A GOOD VACUUM PUMP

But still more important is the fact that a 29-in. or even a 29½-in. vacuum is not low enough for the original evacuation. It is generally recognized that the atmosphere in a refrigeration system should be reduced to at least a -60° F. dewpoint; some companies specify -70° or even lower, especially for low temperature equipment.

A 29½-in. vacuum corresponds to an absolute pressure of .421 in. of mercury or approximately ¼ p.s.i.a. The boiling point of water at this vapor pressure is about 53° F., which lacks over 100° of being down to -60°, which is the commonly used dewpoint dryness required for new equipment.

SYSTEM SHOULD BE DRY

Vapor pressures down in the region corresponding to -60° or -70° dewpoints are measured in microns, of which there are 25,000 in an inch. A vacuum pump that cannot pull down to within 100 or so microns absolute pressure is not much of a vacuum pump; in fact a good commercially available vacuum pump can pull down to less than one micron, which is mighty close to a perfect vacuum.

The point is, that a refrigeration compressor, even one of the finest, is almost worthless for drawing a low enough vacuum to assure a low dewpoint of the air left in the new system. A good vacuum pump should always be used in evacuating a new system.

John H. Spence, service manager of Hussmann Refrigeration, Inc., has "preached" the use of a good vacuum pump on new installations. Along with the use of the vacuum pump, he recommends the triple evacuation technique that has been used by Carrier for a long time.

This involves drawing a deep vacuum with the vacuum pump, then breaking this vacuum with refrigerant up to at least atmospheric pressure preferably a few pounds above zero gauge. Then repeat this two more times, and charge the system.

Mr. Spence is ready to prove that dealers who use this method have very drastically reduced their later service troubles on the systems so handled, particularly as to moisture troubles, corrosion, sludges, and similar troubles.

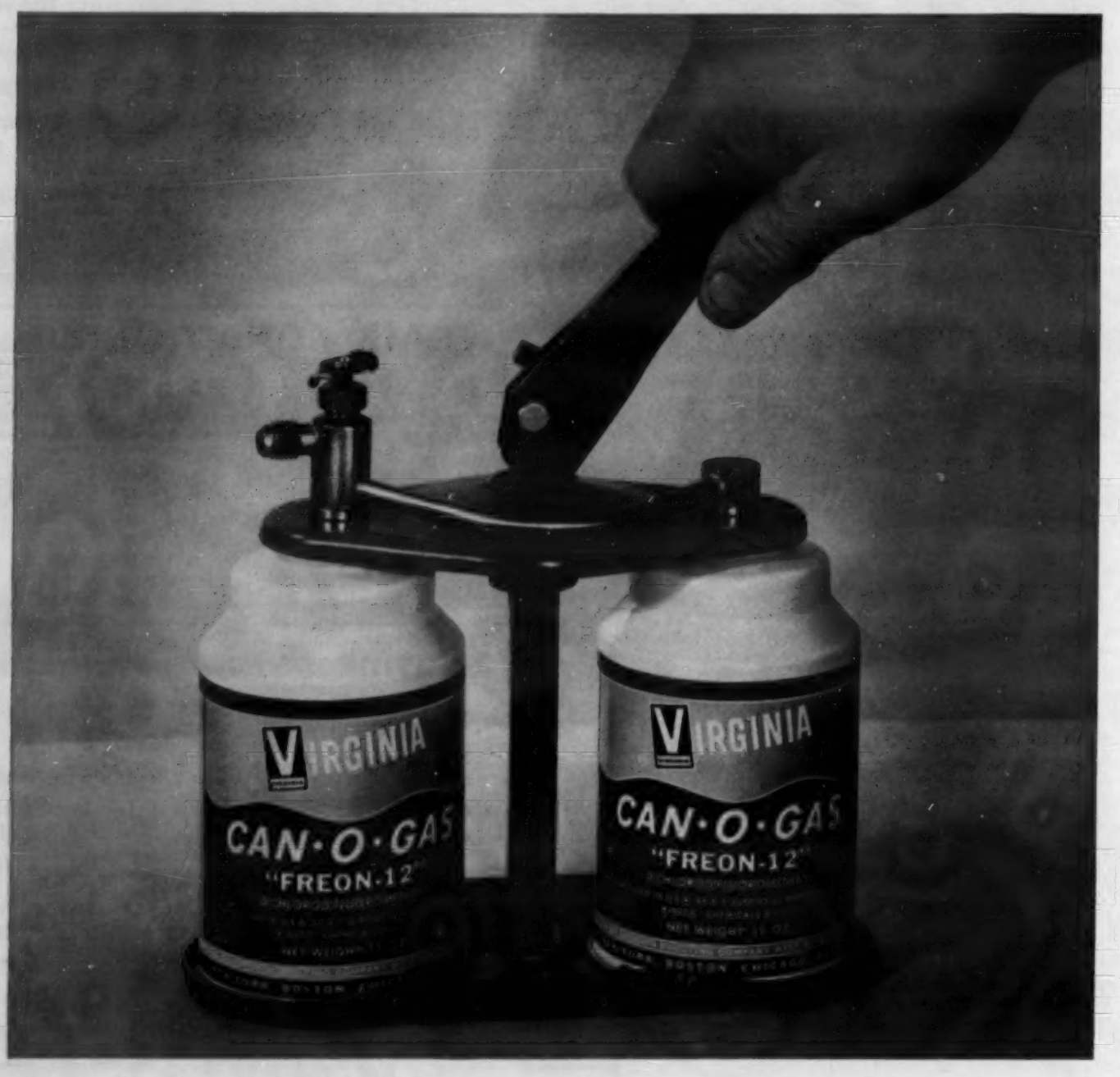
We have wandered a long way perhaps from our original subjects—the effect of vacuum on arcing and insulation breakthrough—but if we have, en route, clarified the situation somewhat and finally arrived at a good practical method of originally evacuating a new system—one that will greatly reduce subsequent trouble on installations so treated, our digression was surely worthwhile.

Powers To Condition New Office-Warehouse

SKOKIE, Ill. — Beginning of construction of a new $300,000 Chicago office-warehouse was announced recently by Harald C. Mueller, president of The Powers Regulator Co. here.

Located at 6645 N. Ridge Ave., the 16,000-sq. ft. building will house the Chicago sales offices of this automatic temperature control firm. Present Chicago offices are at 3819 N. Ashland Ave.

The split-level Chicago building will have 7,000 sq. ft. of air conditioned office space.



For the first time... An accurate field method for adding critical charges of refrigerants

"Virginia's" new Can-O-Gas Multi-Opener provides, for the first time, an accurate method of adding critical charges of refrigerants in the field. With the Multi-Opener No. 2, by means of the proper combination of precision filled weights of "Freon-12," 15 different fractional charges—from 16 oz. to 30 oz. in ½ oz. increments—can be delivered with an accuracy of plus-or-minus 4 grams.

By use of the 3-can Multi-Opener No. 3, 31 different fractional charges are possible, from 24 oz. to 45 oz., also in ½ oz. increments. These novel, new Multi-Opener units are easy to operate, and are virtually indestructible. And the throw-away feature of Can-O-Gas containers completes the picture of the convenience of Can-O-Gas Multi-Opener charging. Can-O-Gas Multi-Openers deliver the refrigerant in the gas phase or—when inverted—in the liquid phase.

Order a supply of Can-O-Gas Multi-Openers No. 2 and No. 3 today for accurate field charging.

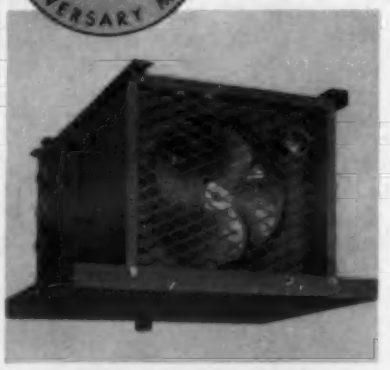
Refrigeration Division
VIRGINIA SMELTING COMPANY
137 Jefferson St.
West Norfolk, Virginia

VIRGINIA Chemicals

ESOTOO • KINETIC CHEMICAL'S "FREON" REFRIGERANTS • V-METH-L
CAN-O-GAS • FERMAGUM • WATER TREATMENT CHEMICALS
PRESSTITE TAPE • KWIKWRAP • SUNISO REFRIGERATION OILS
Available in Canada and many other countries

KRACK 25th ANNIVERSARY MODEL

265 to 1400 BTU/hr. –1° T.D.



LOW PRICED *BUC*

KRACK UNIT COOLER

Here is the long awaited answer to the need for a dependable low priced unit cooler for general application!

Send Today for New Detailed Bulletin BUC 455I

612

KRACK REFRIGERATION APPLIANCES INC.

Pioneers In Refrigeration And Air Conditioning Since 1931.

901 W. Lake St., Chicago 7, Ill.

For more information about products advertised on this page use Information Center, page 16.

ARW Clinic--

(Concluded from Page 1, Col. 3)

Inc., and panelists will be Robert Nelson, Halstead & Mitchell, and Otto Nussbaum, Kramer Trenton Co.

Other discussions on Friday morning will include "Safety in the Manufacture and Installation of Refrigeration Equipment" by James McKeague, Department for the Inspection of Boilers, Pressure Vessels, and Cooling Plants for the City of Chicago; and "Flow Controls" with Del Albright, Controls Co. of America as moderator, and Don Rentschler, Sporlan Valve Co., J. A. Schenk, Alco Valve Co., and Willis Stafford, Detroit Controls Corp., as panelists.

Conferences To Be Held In Booths

Starting at 11:30 a.m. the manufacturers will open their conference booths for individual consultations with the contractors.

At 2:30 p.m. on Friday afternoon the panel discussions are renewed with a session on "Air Conditioning Tools and Their Application" with James Emmett, Jr., J. P. Marsh Corp., as moderator, and Charles Benson, Imperial Brass Mfg. Co. and Ed. S. Turner, Jr., Linde Air Products Co., as panelists.

Final discussion on Friday will be "The Air Conditioning Wholesaler — Your Partner" with Starr Hull, executive secretary, ARW, as moderator, and Harry Alter, Harry Alter Co., G. R. Kinnally, James B. Clow Co., and Carl Shinneman, Polar Supply Co., as panelists. Manufacturers consultation booths will be open throughout the balance of the afternoon.

There will be a cocktail party at 5 p.m. on Friday, followed by a banquet, with J. B. McGuan, chairman, ARW Region Six presiding, and John P. Glass, Jr., past president, ARW, introducing the banquet speaker, George F. Taubeneck, editor and publisher, AIR CONDITIONING & REFRIGERATION NEWS.

Following the banquet the "ARW Region Six Review," an entertainment program featuring top-notch night club and theater acts, will be presented, under the direction of Herman Goldberg, Herman Goldberg Co.

Panel Discussion on Refrigerant Applications

On Saturday morning, Dec. 15, the panel discussion will be on "Refrigerant Applications" with R. W. Israel, Virginia Smelting Co. as moderator, and the panelists including Dr. Ralph C. Downing, Kinetic Chemicals Div., du Pont Co.; George A. Schnier, American Potash and Chemical Corp.; and Dr. W. O. Walker, University of Miami and consultant for General Chemical Div., Allied Chemical and Dye Corp., as panelists.

Consultations with individual manufacturers will follow into Saturday afternoon.

The Morrison hotel has blocked out a considerable number of rooms for those who plan to attend the Clinic, and those who make reservations should make mention of the fact that they will be attending the Clinic.

WHAT . . WHEN . . WHERE — *A Guide to Coming Events of Interest*

American Society of Refrigerating Engineers (ASRE)
Semi-Annual Meeting
Nov. 25-28, Hotel Statler, Boston.

Refrigeration & Air Conditioning Contractors Association (RACCA) Annual Meeting
Nov. 26-28, Balmoral hotel, Miami Beach, Fla.

National Warm Air Heating & Air Conditioning Association (NWAHACA) Annual Convention
Nov. 27-30, Netherland Plaza hotel, Cincinnati.

Air Conditioning & Refrigeration Wholesaler's (ARW) "Product Knowledge Clinic"
Dec. 14-16, Hotel Morrison, Chicago.

National Commercial Refrigerator Sales Association (NCRSA) Annual Meeting
Dec. 2-4, Hotel Mark Hopkins, San Francisco

National Wholesale Frozen Food Distributors Association (NWFFDA) Convention and Exposition
Jan. 6-10, Fontainbleau hotel, Miami Beach

Home Furnishings Market
Jan. 7-20, Merchandise Mart and American Furniture Mart, Chicago

National Association of Home Builders (NAHB) Convention and Exposition
Jan. 20-24, Chicago

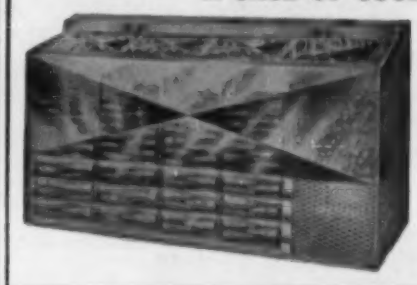
American Society of Heating & Air Conditioning Engineers, Inc. (ASH&AE) Annual Meeting
Feb. 25-March 1, Chicago

International Heating & Air Conditioning Exposition
Feb. 25-March 1, International Amphitheater, Chicago

53 MONDAYS IN 1956

The 52nd and 53rd issues of the NEWS will be combined into one, the issue of December 24. No issue December 31. Be sure to watch for this special combination which will include the Annual Index of key editorial material for the entire year.

"A CASE OF COOL JUDGMENT"



FLO-COLD DRINKMASTER
STAINLESS STEEL CUBER — COOLER.
SOLD THRU DEALERS ONLY
WRITE
United Frigurator Engrs.
MENOMINEE, MICH.
AVAILABLE IN SIZES 4 to 10 FT.

Remarkably flexible, Armaflex is simple and neat to apply to air-conditioning systems such as this one at the Connecticut General Life Insurance Company's new office building in suburban Hartford, Conn. Armaflex's cellular structure seals out moisture and air, prevents condensation.

Slipped right over lines before they're put into operation, Armstrong Armaflex follows contours readily without time-consuming special cutting or fitting.

Joints are cemented with Armstrong 520 Adhesive. When they are required, fitting covers can be easily fabricated from miter-cut pieces of Armaflex.

New insulation for fluid cooling and heating lines is

flexible for fast, easy application

The great flexibility of Armstrong Armaflex® permits fast, easy insulation of both commercial and residential air-conditioning and heating lines. Made of a resilient, foamed plastic, Armaflex slips right over pipes and copper tubing, follows contours without special cutting or fitting. If lines are already in operation, just slit Armaflex lengthwise, snap in place, and seal with Armstrong 520 Adhesive. No separate vapor barrier is needed.

Fitting covers can be quickly fabricated from miter-cut pieces and cemented together. Armaflex is clean to work with, too. It will not chip, crumble, or rub off; waste is negligible. A self-extinguishing feature makes Armaflex completely safe to install before sweat fittings are made.

Highly efficient, Armaflex in ½" wall thickness prevents condensation under normal design conditions on indoor lines operating as low as 32° F. Its low k-factor of 0.28 at 75° F. stays low for the life of the installation. Armaflex comes in 6' lengths, for pipes and tubing up to 3⅛" i.d.

For free booklet containing complete data on this remarkable new insulation, write to Armstrong Cork Co., 2011 Parsons Street, Lancaster, Pa.

Pre-insulated with Armaflex, these heating-cooling lines are ready to be connected to the air-conditioning units. No further insulation is needed.

Armstrong
INDUSTRIAL INSULATIONS

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" $7.50 per insertion. Limit 50 words, 15¢ per word over 50.

RATES for all other classifications $10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other address by actual word count. Please send payment with order.

POSITIONS WANTED

MANUFACTURER'S REPRESENTATIVE: Well established in the Chicago and surrounding markets, needs line of stainless steel reach-ins, ice cube maker, residential and commercial air conditioners, or related line sold to commercial refrigeration and restaurant equipment dealers. I am interested in competitive priced equipment, by reliable manufacturer. BOX A5683, Air Conditioning & Refrigeration News.

SALES ENGINEER: Air conditioning & heating. Wide experience in selling, designing, installing and servicing commercial, residential, industrial applications of all sizes. B. M. E. Desires job with manufacturer or large distributor in New England or Middle Atlantic States to better $10,000.00 earnings. BOX A5684, Air Conditioning & Refrigeration News.

ENGINEERING MANAGER — can get results and direct manufacturing and engineering in large or small operation. Willing and able to fit into existing organization to best overall advantage. Electrical mechanical refrigeration and air conditioning engineer. Long experience with systems compressors and cabinets domestic and commercial. BOX A5685, Air Conditioning & Refrigeration News.

CHICAGO AREA manufacturers representative contacting refrigeration dealers, dairies, and ice cream manufacturers can properly service additional account. If you have accounts where constant attention may prove beneficial and would also like to add other customers write BOX A5686, Air Conditioning & Refrigeration News.

SALES REPRESENTATIVE—20 years' sales experience in air conditioning and heating plus sales promotion. Interested in representing a company handling a complete line of cooling and heating equipment. Will travel working out of Detroit. Available in fifteen days. BOX A5688, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

SALES ENGINEERING opportunities available Houston district office of prominent manufacturer of large tonnage systems. Work with distributors, dealers and wholesalers. Preferred age between 25 and 35. Salary plus incentive program. Write or call D. G. Merrill, ACME INDUSTRIES, INC., Jackson, Michigan.

WANTED IN Southern California competent refrigeration and air conditioning engineers, draftsmen and refrigeration fitters. Due to serious labor shortage the Refrigeration and Air Conditioning Contractors Association of Southern California has undertaken the responsibility of recruiting employees for members of the Association. Upon your inquiry setting forth general type of work we will forward to you an appropriate questionnaire. REFRIGERATION AND AIR CONDITIONING CONTRACTORS ASSOCIATION OF SOUTHERN CALIFORNIA, INC., 453 South Spring Street, Los Angeles 13, California.

YOUNG MAN wanted to work in engineering department of air conditioning and refrigeration contractor in Philadelphia. Mechanical background desirable with some drafting experience. Opportunity for advancement in engineering or sales. Call MR. REEHM,-Walnut 2-2462 for interview.

SALES ENGINEER for Pittsburgh location by major manufacturer of air conditioning equipment 2 to 125 h.p. Will promote product with users, specifying agencies and sell through franchised outlets. Must have some experience in air conditioning field. Degree helpful. Limited travel required. Salary commensurate with experience and ability. Expenses, incentive plus usual benefits. Reply to WESTINGHOUSE ELECTRIC CORPORATION, Air Conditioning Division, P. O. Box 1017, Pittsburgh 30, Pennsylvania.

SALES ENGINEERS experienced in small and large commercial and industrial air conditioning refrigeration equipment are required for expanded operations in Chicago and other Midwest sales offices. Some travel involved. Expenses, salary, and incentive. Apply only by letter giving full details as to background and experience. Replies confidential. Write T. J. Fyock, Personnel Manager, WESTINGHOUSE ELECTRIC CORPORATION, P.O. Box 510, Staunton, Virginia.

OUTSIDE SALESMAN, for wholesaler of refrigeration supplies, covering New York City and region, permanent, good opportunity. Write giving full personal details including education, experience and income expected. Present employer will not be contacted without permission. (Our employees know of this ad.) P. O. BOX 63, Long Island City 3, New York.

COUNTERMAN FOR New York City wholesaler of refrigeration supplies. Permanent, good opportunity, write giving full personal details including education, experience and income expected. Present employer will not be contacted without permission. (Our employees know of this ad.) P. O. BOX 63, Long Island City 3, New York.

SALES REPRESENTATIVE wanted, age no barrier, for sale of new development in the air conditioning field to jobbers. This new product is one of the three major components of the refrigeration cycle and will completely change existing conventional field practice. It is extremely saleable and will reward a hard-hitting individual with above average earnings on a liberal commission basis. Exclusive protected territories. Previous experience in air conditioning, refrigeration, plumbing, or heating industries desirable but not essential. Engineering background helpful. The company offering this product is now the leading manufacturer of one of the three major components of the refrigeration system. Write now, giving us personal details as well as present activity to BOX A5659, Air Conditioning & Refrigeration News.

WANTED—TWO district sales supervisors; one to be located in San Francisco and one in the South to supervise sales offices of manufacturer of heating and air conditioning equipment on West Coast and Southern areas. Send complete information of education, experience and salary requirements to BOX A5681, Air Conditioning & Refrigeration News.

LEADING WHOLESALER of refrigeration and air conditioning equipment has opening for salesman in Brooklyn and Long Island territory. Experienced. Must have knowledge of estimating air conditioning and refrigeration loads. Salary, expenses and bonus. Write BOX A5682, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

FOR SALE—500 all steel equipment food lockers, 18" wide and 30" long guaranteed in excellent condition. Drawers $5.50 ea. Door type $4.00 ea. Will consider best offer. CONNECTICUT ICE MACHINE CO., INC., 7 Madison Street, South Norwalk, Connecticut.

THOUSANDS OF air conditioners are now equipped with Kesco automatic condensate water disposal pumps available at your local wholesalers in 1/ and 20 foot heads 110 or 220 volts only 9" high, water inlet 5 inches from floor. Wholesalers write to KESCO PRODUCTS, P. O. Box 84, Springfield Gardens 13, New York.

BUSINESS OPPORTUNITIES

WANTED: RELIABLE and capable distributors for our air conditioning and refrigerating equipment. Good territories available. Full line of compressors, condensers, coils, coolers, controls, valves and fittings, pressure vessels, etc. Contracts include repairs and spare parts for equipment now in use. Profitable account. Address Department B, FRICK COMPANY Waynesboro, Pennsylvania. Refrigeration Engineering Pioneers since 1882

WANTED:—PRODUCTS or new product ideas that can be sold restaurant and institutional markets by reputable manufacturer with national dealer selling organization. Royalty or outright purchase. Confidential. Write BOX A5653, Air Conditioning & Refrigeration News.

MISCELLANEOUS

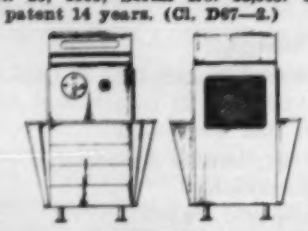
ATTENTION SERVICEMEN: Send for free circulars and bulletins on refrigeration parts and equipment. Real money saving values: WALTER W. STARR; 2833 Lincoln Avenue, Chicago 13, Illinois.

PATENTS

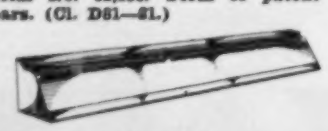
Week of June 19 (Concluded)

DESIGNS

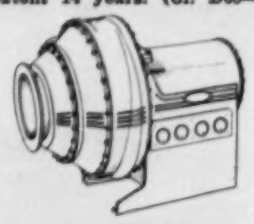
178,050. UNIT FOR FREEZING ICE CREAM. Melvin M. Greene, Port Chester, N. Y., assignor to Milk Maid Ice Cream Co., Inc., Rochester, N. Y., a corporation of New York. Application Oct. 25, 1955, Serial No. 28,565. Term of patent 14 years. (Cl. D67—2.)



178,052. BASEBOARD REGISTER. Clarence O. Griner, Ceresco, Mich., assignor to United States Register Co., Battle Creek, Mich., a corporation of Michigan. Application Sept. 10, 1954, Serial No. 32,236. Term of patent 14 years. (Cl. D61—61.)



178,105. CENTRIFUGAL COMPRESSOR. Adolph Zulinke, Syracuse, N. Y., a corporation of Delaware. Application April 20, 1955, Serial No. 35,598. Term of patent 14 years. (Cl. D65—1.)

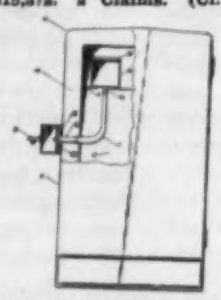


Week of June 26

2,751,638. REFRIGERATOR CABINET CONSTRUCTION. Ralph E. Wallenbrock, Evansville, Ind., assignor, by mesne assignments, to Whirlpool-Seeger Corp., a corporation of Delaware. Application Nov. 14, 1952, Serial No. 320,504. 4 Claims. (Cl. 20—35.)

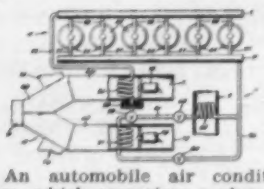
2. A door for a refrigerator cabinet comprising an outer panel, an inner panel, insulation disposed between said panels except at the edges thereof, compression gasket means disposed between said panels at the edges thereof for maintaining said panels in a spaced-apart relationship, a channel-shaped member disposed around the edges of and overlapping said panels for maintaining said panels in alignment, a breaker strip disposed between said channel-shaped member and said inner panel at the outer marginal edges thereof to substantially reduce any thermal contact between said channel-shaped member and said inner panel, and a sealing gasket mounted on said channel-shaped member on the opposite side thereof from the side cooperating with said breaker strip thereby preventing the passage of any heat between said door and said refrigerator cabinet when mounted to cooperate with said refrigerator cabinet.

2,751,757. LIQUID DISPENSER FOR REFRIGERATORS. William E. Hobbs and Newton P. Whaley, Jr., Dallas, Texas. Application June 14, 1955, Serial No. 515,372. 2 Claims. (Cl. 62—89.)



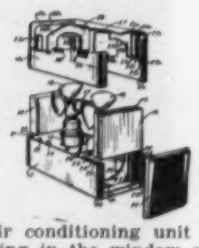
1. In a refrigerator including a conventional storage shelf, a door-closed opening and flexible sealing-strip thereabout; a liquid container on said storage shelf with a liquid outlet extending downward between the grills of said storage shelf, a flexible hose removably connected to said liquid outlet, the other end of said hose being connected to a liquid conduit, having a flattened portion of said liquid conduit extending from the inside of said refrigerator to the outside across the front face of said refrigerator, permitting the compression of said flexible sealing-strip around said liquid conduit without interfering with the operation of the door, the end of said liquid conduit extending outside making a ninety degree turn to parallel the side wall of the refrigerator, and being connected to a ninety degree adapter, the other end of said ninety degree adapter being removably connected to a liquid dispensing valve, that portion of the liquid conduit on the outside of said refrigerator and the liquid dispensing valve being enclosed in part by a housing which is provided with suitable attachment means to the side wall of the refrigerator, said liquid dispensing valve providing for the flow of liquid from said liquid container with the refrigerator door closed or open.

2,751,758. VEHICLE AIR CONDITIONER. William C. Parrish, Puente, Calif.



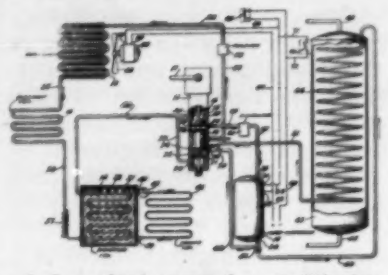
1. An automobile air conditioning system, which comprises a plurality of flexible-wall pumps in continuous communication with the combustion chambers of the engine of said automobile, a heat pump-refrigerating circuit interconnected with said pumps, said circuit including a first heat transfer element on the high pressure side of said pumps, a second heat transfer element on the low pressure side of said pumps, an expansion valve between said heat transfer elements, and first and second duct means to continuously direct air over said first and second heat transfer elements, said first and second duct means discharging selectively overboard and into said automobile depending upon whether it is desired to heat or cool the same.

2,751,760. TWO-PIECE ROOM AIR-CONDITIONER CABINET. Si J. Williams, Jr., Evansville, Ind., assignor, by mesne assignments, to Whirlpool-Seeger Corp., a corporation of Delaware.



1. An air conditioning unit adapted for mounting in the window structure of an enclosed space to be cooled, comprising: a cabinet structure fashioned with an upper and a lower section; said upper section having a greater vertical length than the lower section and being dimensioned for telescopic positioning over said lower section; means fashioned integral with said sections for interlocking one of said sections with the other; means including a partition fashioned integral therewith for dividing said cabinet structure into a cooling compartment and a machinery compartment; refrigeration apparatus including a motor compressor, an evaporator, a condenser, a filter element, a fan motor, an evaporator fan and a condenser fan mounted in said cabinet structure and disposed partly in each of said compartments; means fashioned integral with said cabinet structure providing a fan shroud in each of said compartments for enclosing the said fans; and a plurality of individual members fashioned integral with said cabinet structure for fixedly positioning the condenser, evaporator, and filter element components of said refrigeration apparatus within said cabinet structure.

2,751,761. COMBINATION HEAT PUMP AND WATER HEATER. William F. Borgerd, Evansville, Ind., assignor, by mesne assignments, to Whirlpool-Seeger Corp., a corporation of Delaware.



4. In a heat pump for conditioning the air within a building, a refrigeration system comprising a first heat exchange unit, a second heat exchange unit and a third heat exchange unit, said heat exchange units connected in series to a compressor, a refrigerant flowing within said system, a metering device connected between said second heat exchange unit and said third heat exchange unit, means for reversing the flow of refrigerant for heating and cooling cycles so that said first and second heat exchange units will operate as evaporators and said third heat exchange unit will operate as a condenser during the cooling cycle, and so that said first and second heat exchange units will operate as condensers and said third heat exchange unit will operate as an evaporator during the heating cycle, said first heat exchange unit being in heat exchange relation with the room air of the building, said second heat exchange unit being in heat exchange relation with the basement air of said building, a coil positioned in heat exchange relation with a water container, said coil being connected in said system so that a portion of the compressed refrigerant from the compressor will flow through the coil before being conveyed through said heat exchange units so that said coil will operate as a condenser only, fan means for circulating said room air over said first heat exchange unit, and manual means selectively operable to one position for operating the compressor alone and to another position for operating the compressor and the fan means simultaneously.

(To Be Continued)

REFRIGERATION PROJECT ENGINEER

Truck refrigeration division of established Company offers excellent opportunity in design and development of mechanical refrigeration systems.

Transportation experience helpful —but not necessary.

Light, air-conditioned offices, paid vacations, and other benefits.

Contact Mr. G. Sykes, INterocean 8-7272 or write Union Asbestos & Rubber Co., 2900 W. Vermont St., Blue Island, Illinois.

MANUFACTURER'S REPRESENTATIVES WANTED

AN OUTSTANDING RESIDENTIAL AIR CONDITIONER SALES OPPORTUNITY WITH A QUARTER OF A BILLION DOLLAR COMPANY

This sales opportunity results from company separating central air conditioning from room air conditioner sales. Should have knowledge of packaged air conditioner business, engineering background and proven sales ability.

This is a complete, competitively-priced line for both residential and commercial markets. Dealer program includes advertising and financing program.

Many key markets still available. Write, giving full details of your background and experience. All replies treated in confidence. Our representatives know of this advertisement. BOX A5687, Air Conditioning & Refrigeration News.

SALES ENGINEER

AIR CONDITIONING & REFRIGERATION

A large nationally-known manufacturer offers an exceptional opportunity for a MATURE Sales Engineer who has had experience in the various phases of the air conditioning and refrigeration business and a creditable record in sales.

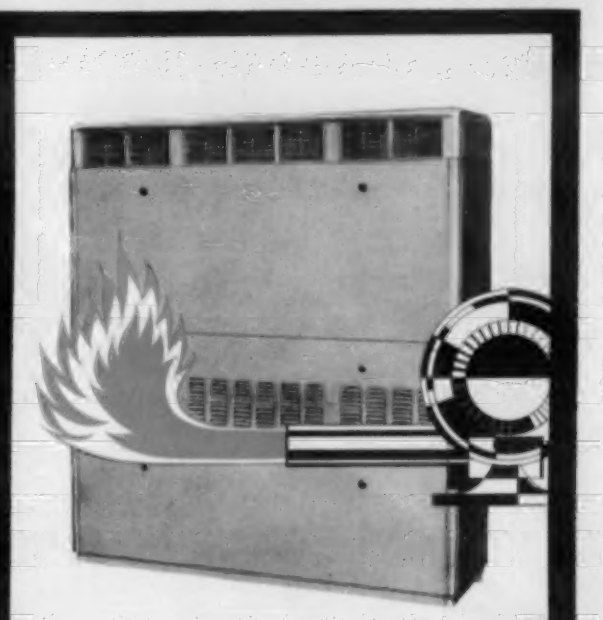
The position is a special assignment in the Chicago area handling sales relations with major national customers. This is a career opportunity for the right man.

In application please give a complete resume of education and experience. Replies will be confidential.

BOX A5679, Air Conditioning & Refrigeration News.

For more information about products advertised on this page use Information Center, page 16.

For the First Time— The News Earmarks Two Big Issues for Heating and Air Conditioning Show



PRE-SHOW ISSUE!

For the first time, AIR CONDITIONING & REFRIGERATION NEWS will devote two separate issues to cover the 13th International Heating & Air Conditioning Exposition to be held in Chicago, February 25 through March 1. The February 4 issue of the NEWS will carry complete pre-show information. So, if you are among the exhibitors, this is your chance to tell your prospects and customers about the products you will display and your location at the show. Take advantage of this big pre-show roundup. Reserve your space now—enough to tell your whole story—to pre-sell your prospects for maximum show results.

SHOW ISSUE!

First day of the exposition the AIR CONDITIONING & REFRIGERATION NEWS Show Issue will be distributed to convention goers. For advertisers in the Show Issue it represents a bonus circulation of many thousand. But—equally important—is the added readership, added interest in the exposition roundup issue. Those attending the convention will consult the advertisements frequently to line up their "things to see" agenda. Those unable to be there will attend the show through the pages of the NEWS. Either way, your advertisement will get maximum attention, maximum readership. Now is the time to reserve your selling space.

A Special Merchandising Offer to NEWS Advertisers

1. Special "As Advertised In AIR CONDITIONING & REFRIGERATION NEWS" placards for your products on display at the Heating & Air Conditioning Show inviting passers-by to read your complete selling story.

2. Copies of the NEWS—at reduced rates—in which your advertisement appears for mailing to customers and prospects you select.

3. Reprints of your advertisement will be available at cost. Ask your NEWS representative for suggestions on how you may take advantage of the special merchandising service of the NEWS, both at the show and afterward.

CIRCLE THESE DATES ON YOUR CALENDAR

Pre-Show Issue publication date: February 4, 1957

Convention Issue publication date: February 25, 1957

Last forms close: 10 days preceding the date of issue

Don't miss this selling opportunity during the Heating & Air Conditioning Show.

AIR CONDITIONING & REFRIGERATION

The Newspaper of the Industry

ABP ABC AUDITED PAID CIRCULATION

NEWS

450 WEST FORT STREET, DETROIT 26, MICHIGAN

THE NEWSPAPER THAT CARRIES MORE ADVERTISING BY FAR THAN ANY OTHER PUBLICATION IN THE FIELD.

NEW YORK, 521 FIFTH AVE.
MURRAY HILL 2-1928-9.
ROBERT M. PRICE.

CHICAGO, 134 S. LA SALLE ST.,
FRANKLIN 2-8093.
ALLEN SCHILDHAMMER.

LOS ANGELES, 4710 CRENSHAW BLVD.,
AXMINSTER 2-8501
JUSTIN HANNON.

DETROIT, 450 WEST FORT ST.,
WOODWARD 2-0924.
J. E. SULLIVAN.

York Announces '57 Line--

(Concluded from Page 1, Col. 2)

—and connects to existing heating plant ductwork or to York's prefabricated duct system, according to the company.

Multiple installations of Pathfinder units can be offered for larger homes to provide selective zoned cooling for different living areas, it was pointed out.

Units Adaptable to Horizontal Furnaces

In outlining some suggested locations for a Pathfinder installation, York said that if a home is heated with a forced warm air system, it is quite possible that the owner may be able to add-on a Pathfinder. The units are most easily adapted to horizontal furnaces.

In homes without attics or basements, the carport or garage provides a location. Ductwork positioned overhead carries the cool air into the home.

The Pathfinder can be suspended from the ceiling in closets or utility room adjacent to outside walls. If attic space is limited by a low roof or a hip roof, the unit may be installed in a dormer window or even through the roof.

York said a Pathfinder unit may be installed nearly anywhere in a basement—through a wall, against the wall, partly outside a basement window or completely outside. For added space saving, the unit may be mounted on the ceiling.

Provide Special Low-Cost Duct Kit

For homes that do not have existing ductwork, York provides a special low-cost duct kit containing all parts necessary to assemble a completely insulated air distribution system, it was stated. Ductwork is ¾-in. fiber glass, pre-grooved for easy folding, and can be cut easily with a knife, according to the company. All materials needed for installing ductwork are included in the kit.

A basic duct kit is offered, and also a drain pan and attic louver kit that may be ordered when the unit is to be installed inside an attic.

The Pathfinder lines includes model HCF-204A for homes of moderate size, model P20F for homes located in areas subject to long and extended hot periods, model P20 for use with forced warm air furnaces, and models P30F and P30 for larger homes and offices or small commercial establishments. Model P30 is built as an added-on unit to forced warm air systems.

18 'Snorkels,' 11 Other Room Units

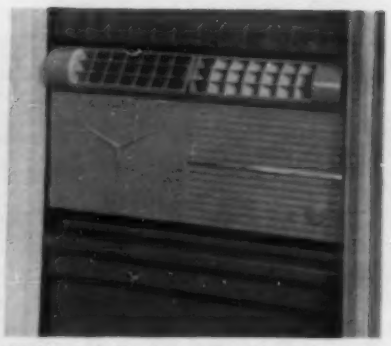
York's 1957 room air conditioner line includes 29 models, of which 18 are Snorkel units. Thinness of the Snorkel, which is 12¾ in. deep, is emphasized by the company, which pointed out that the unit doesn't block the window and doesn't project outside the window.

The Snorkel is said to fit any window. In regular windows, it needs only 9 in. of window space. It can also be installed through the wall, or as a floor unit.

The "Decorator Designed" Snorkel is available in three finishes—a combination of Metropolitan Gray and Imperial Gray, two-tone Alumina Gray, and Provincial Wood Grain. The Snorkel line includes a 7½-amp. model that operates on 115-volt current, two reverse-cycle models, and seven models that are suitable for use with wet heat.

The Clean-Air Sentry featured in the Yorkaire room conditioner line is located under the hinged panel on the front of the cabinet. The red light on the Sentry "winks on—and stays on—the moment the filter needs cleaning or changing," it was explained.

Some of the other features of the Yorkaire room-unit line include permanent aluminum filters in some models, "sealed-in sound guard," "Dictate-air" grille, and "positive moisture removal."



FRONT of York's 1957 E50, E75, E100 room air conditioner models.

MODEL HCF204A "Pathfinder" air conditioner is provided for homes of moderate size.

Among these units are "Power Saver" models (E75L and E100L) operating on 115-volt current; heat pump models (E75R and E100R); and "Plus Capacity models (150 and 200).

Model numbers, suggested retail prices, and B.t.u. ratings of the room air conditioners were announced as follows:

Model	Suggested List Price	B.t.u. Ratings*
E50	$259.95	4,900
E50AP	329.95	4,900
EG50AP	339.95	4,900
E50APH	339.95	4,900
EG50APH	349.95	4,900
E75	329.95	7,500
EW75	339.95	7,500
E75L	349.95	6,250
EW75L	359.95	6,250
E75R†	369.95	7,400
E75AP	399.95	7,500
EG75AP	409.95	7,500
EM75AP	409.95	7,500
E75APH	409.95	7,500
EG75APH	419.95	7,500
EM75APH	419.95	7,500
E100	349.95	9,500
E100L	369.95	9,000
E100R†	409.95	9,300
E100AP	409.95	9,000
EG100AP	419.95	9,000
EM100AP	419.95	9,000
E100APH	419.95	9,000
EG100APH	429.95	9,000
EM100APH	429.95	9,000
E100APR†	429.95	8,800
EG100APR†	439.95	8,800
E150	439.95	14,300
E200	469.95	16,000

*Tested and rated in compliance with ARI Standards 110-56.
†Reverse cycle.

Gleason Named--

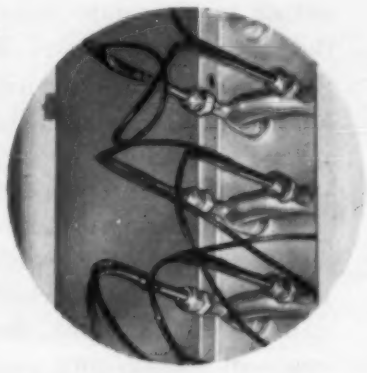
(Concluded from Page 1, Col. 5)

Manufacturers Association, and the National Refrigeration Supply Jobbers Association.

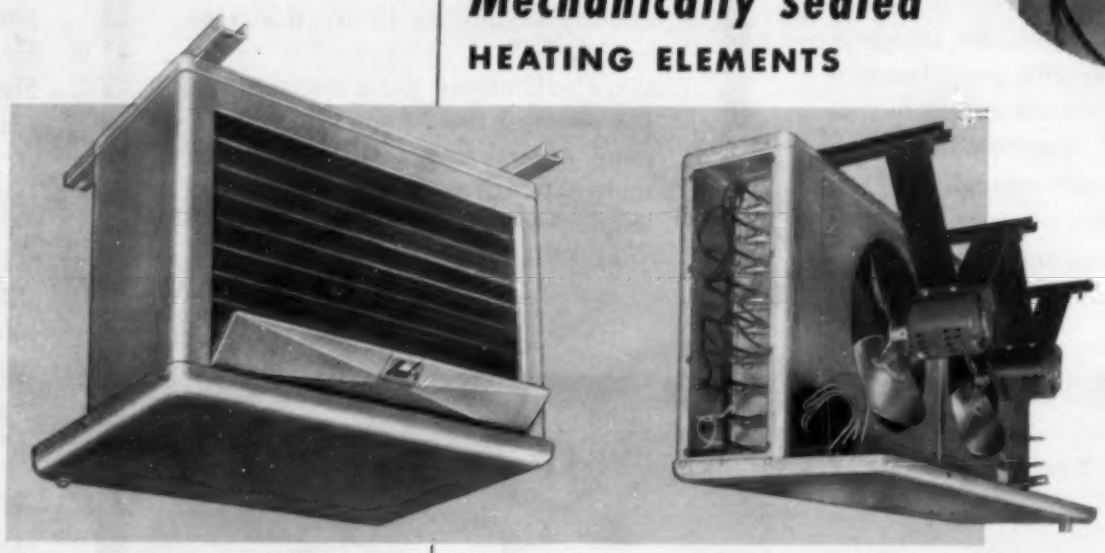
In the period since assuming the duties of executive vice president in 1955, Gleason has embarked Copeland on expansion and modernization programs which will result in consolidated and expanded production facilities early in 1957.

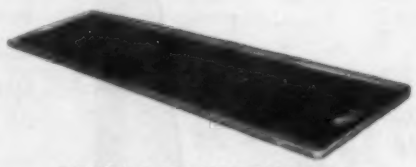
Defrost Electrically

SAFELY...SURELY with DUNHAM-BUSH 'ED' UNITS



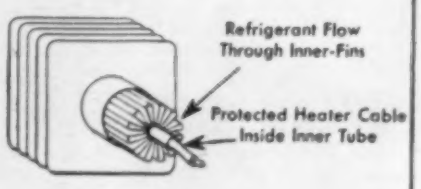
NOW FEATURING
Mechanically sealed
HEATING ELEMENTS





DRAIN PAN HEATING PAD

Conductive rubber electrical heating blanket provides quick, safe heat that prevents refreezing of water during defrosting. No heating wires . . . heating element is conductive rubber, hermetically sealed, shockproof and waterproof.



No defrost problems with these Dunham-Bush low temperature units! *Mechanically sealed* heating elements provide *positive* protection against entry of water into system. Defrosting is safe . . . sure . . . complete. And control kit (furnished) makes defrosting *entirely automatic.*

Inner-Fin® coil construction, exclusive with Dunham-Bush, permits units to defrost *from the inside.* Heat source for defrosting is a specially designed heater cable contained within the inner tube. Greater surface area which Inner-Fin construction provides assures rapid distribution of heat, quicker defrosting and minimum room temperature rise.

Units are available in capacities from 4500 to 36000 BTU/hr.

Write for complete information.

Dunham-Bush, Inc.

WEST HARTFORD 10 • CONNECTICUT • U. S. A.

DUNHAM-BUSH

AIR CONDITIONING, REFRIGERATION, HEATING PRODUCTS AND ACCESSORIES

For more information about products advertised on this page use Information Center, page 16.